NEW

100 GAMES TO PLAY BEFORE YOU DIE

retro GAMER SPECIAL EDITION

Digital Edition

FUTURE

SECOND EDITION

IN-DEPTH FEATURES • DEVELOPER ACCESS • BEHIND THE SCENES

Welcome to

Discovering great videogames can be something of a minefield. There have been literally thousands of games released since the Seventies, so how on earth do you focus on the ones which are worth playing? Fortunately for you, we have the answer. Originally compiled for **Retro Gamer** by its own readers, the following tome contains the 100 games that you really should experience before you die. The games in question cover a wide range of genres, from platformers to racing games and range from 8-bit hits such as *Pac-Man* and *Manic Miner* to more recent classics like the excellent *Skyrim*. In short there's something in this book that should appeal to everyone, whether you're a fan of *Shenmue* or *Super Mario Kart*. But that's only part of the story. Once you've discovered the next 100 games you should be playing through (hopefully you'll have completed some of them already) you'll also be able to read in-depth articles on some of the biggest games featured inside, including the entire top ten. Enjoy.

FUTURE

100 GAMES TO PLAY BEFORE YOU DIE

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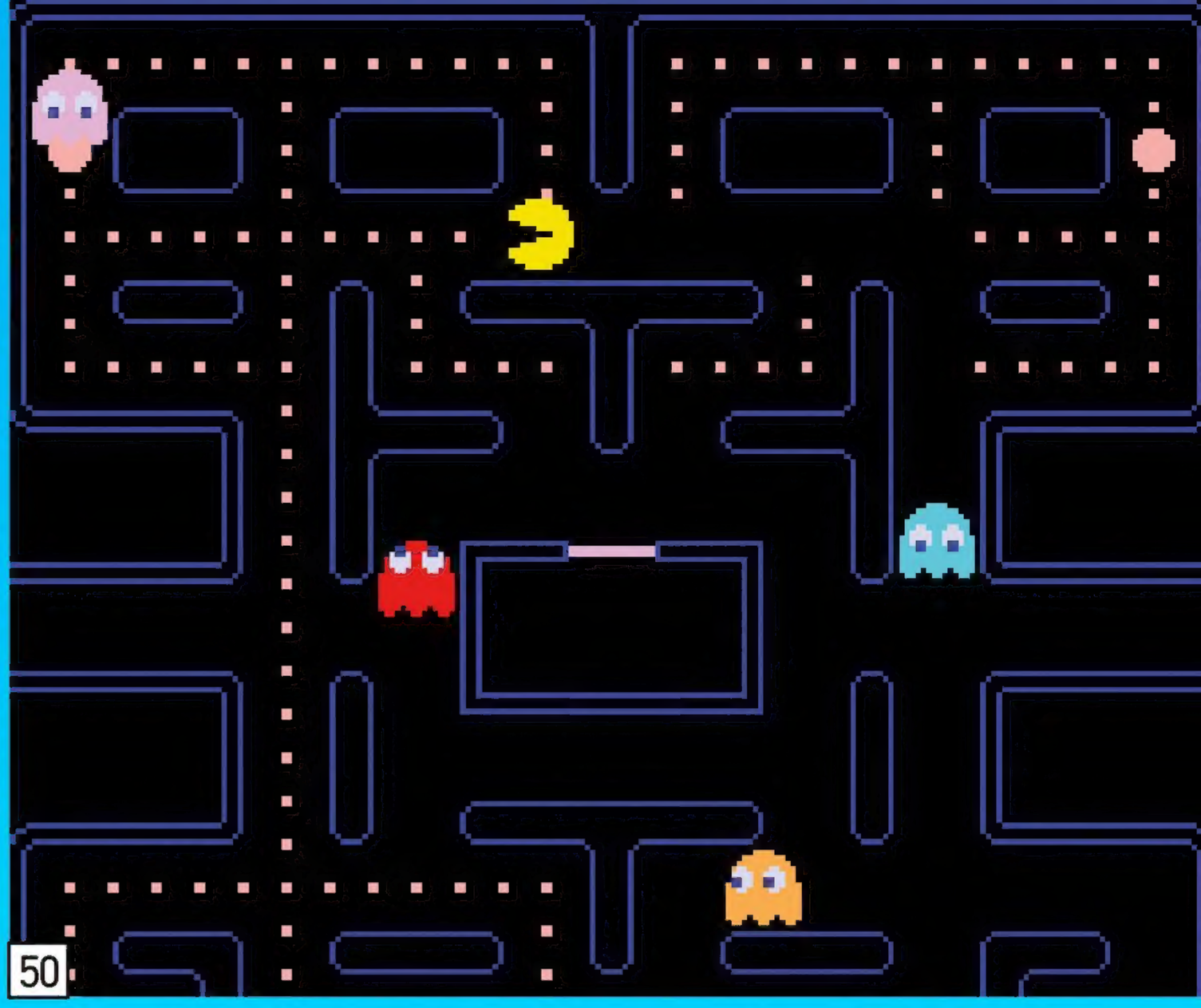

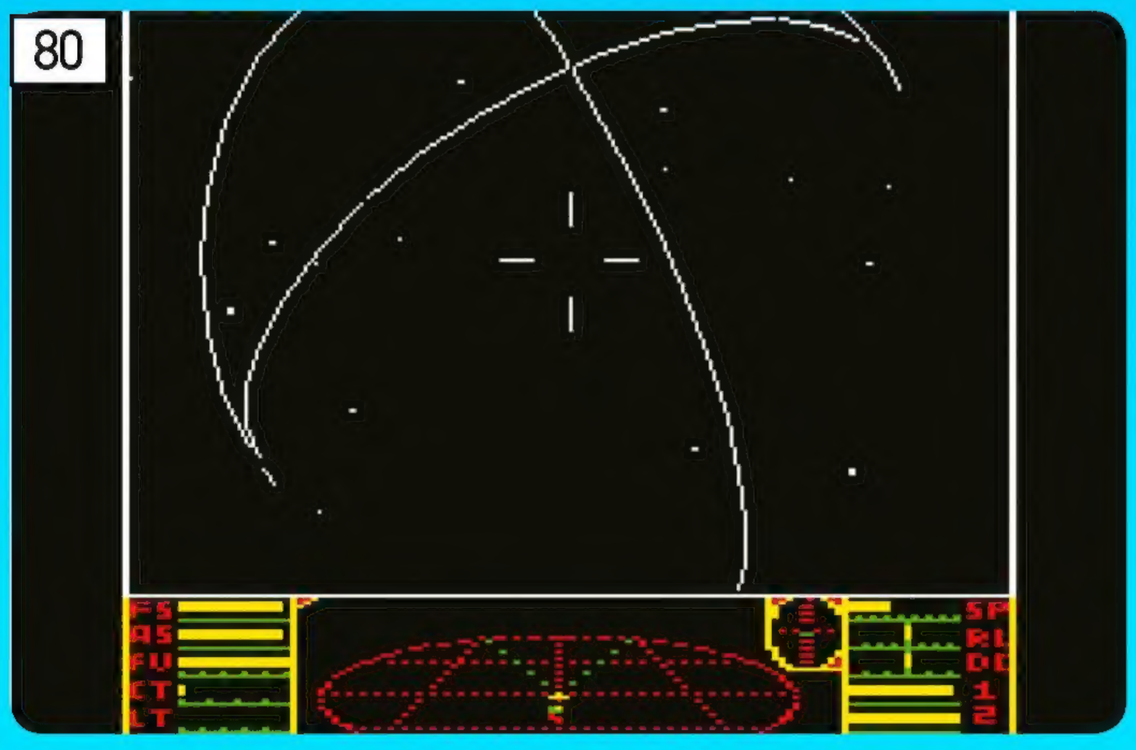

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100 GAMES TO PLAY BEFORE YOU DIE

YOUR

100

GAMES TO P
BEFORE YOU

DOOM

You're only on this planet for a short time, so you need to cram in as many games as possible. Our reader vote reveals the many classics that you really must play

Everyone loves a good list and Retro Gamer readers are no exception. All the way back in issue 150 we asked readers what the greatest games of all time were and we were amazed at the feedback. Of course, readers who have been with **Retro Gamer** since its inception will realise that a similar list first appeared in issue 8 – a staggering 175 issues ago now. That's over 13 years ago, which is an insane amount of time in videogames. When your original list appeared, the Xbox, PS2 and GameCube were all current-generation systems, now they're two generations old, with many readers considering them to be retro too.

We had thousands of votes from readers, covering all sorts of games, from *Pong* to newer releases like *Grand Theft Auto V* and *Dark Souls*, and we decided to create the ultimate list and we're now enhancing it for this brand new book. The original list in 2004 had readers voting for over 700 individual games across over 30 different formats. This time around that impressive record was smashed with over 1400 games being voted for. Keeping with the stats, 61 games from the original list remain too, so we've shown you their previous positions so you can see how far they've climbed and dropped over the years. And remember, this is your list, made possible by your many, votes. You've only got a short time on this planet, so if you're going to only be able to play a certain amount of games then please make sure you play these first.

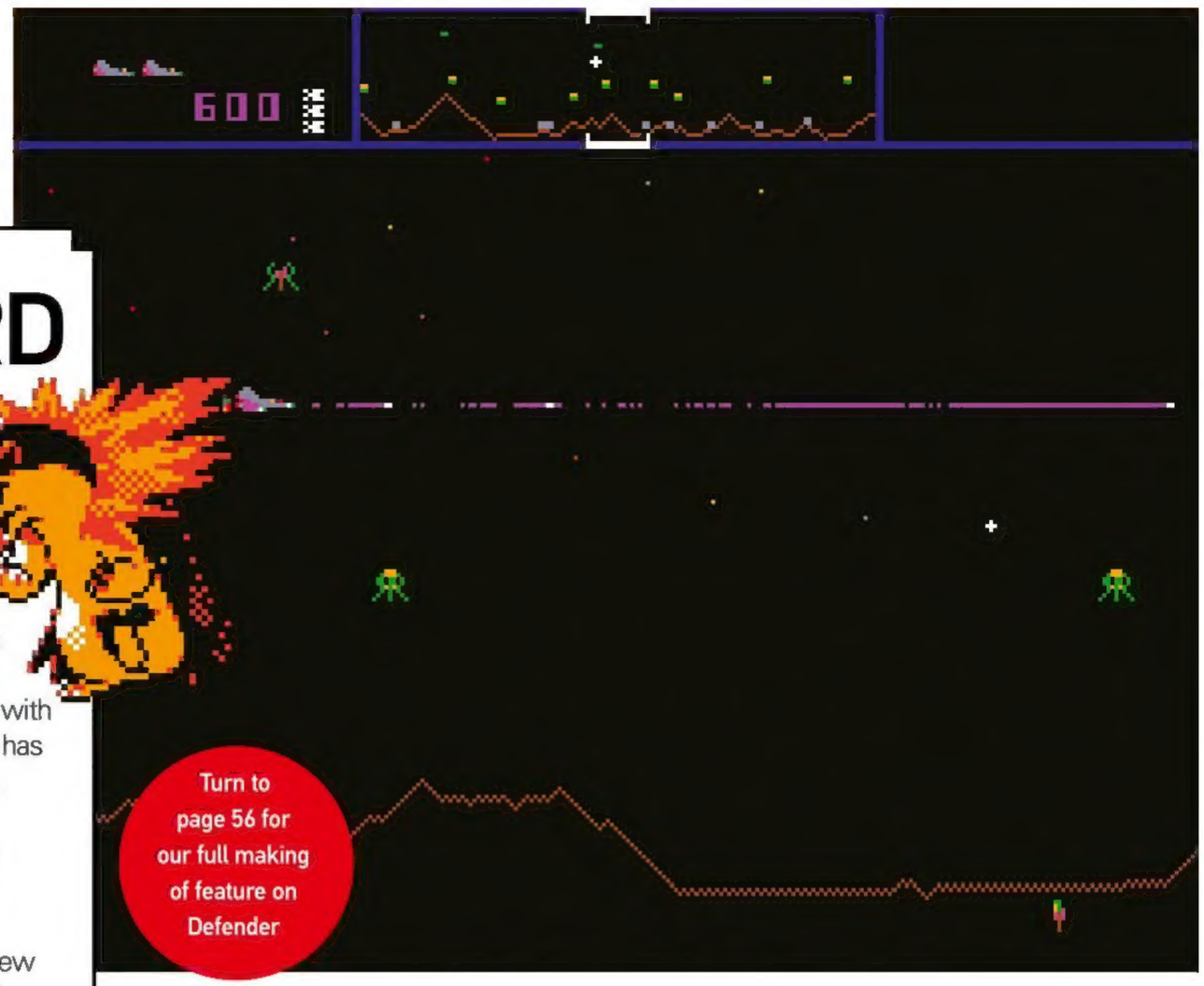
Do these classics make your final list? Read the feature in order to find out

THE GOLD STANDARD IN POKÉMON

100 Pokémon Gold & Silver

■ Year: 1999 ■ Platform: GBC

Whether you love or hate the innumerable console and handheld titles, cartoon and movie spin-offs or cuddly plush toys, there's no denying that Nintendo's *Pokémon* phenomenon has a significant place in videogaming history. Starting with *Pocket Monsters Red And Green* for the original Game Boy in 1996, the series has captured the imaginations of generations of gamers with its mix of role-playing, monster-hunting, training, battling and trading. With the second generation of *Pokémon* titles, *Gold And Silver*, released for the Game Boy in 1999, fans were able to get their hands on a new range of one hundred monsters, bringing the number of trainable Pokémon to over 250. *Gold And Silver* took place in a new location called Johto with players tasked with battling to become the region's new Pokémon Master. New features included a real-time day and night system, with some monsters only appearing at certain times, two new Pokémon types (Dark and Steel) and a much improved interface and inventory system. Another new mechanic was the ability to breed Pokémon from eggs, with the offspring inheriting qualities and battle techniques from its parents. *Pokémon Gold And Silver* were the games that began the transformation of the series into a multi-billion dollar franchise for Nintendo, one that continues to this day.



Turn to page 56 for our full making of feature on Defender

EUGENE JARVIS GETS NOSTALGIC

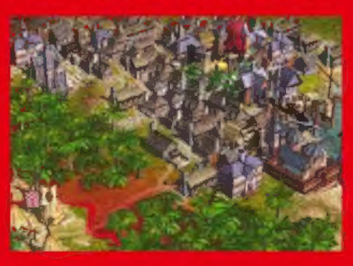
99 Defender

■ Year: 1981 ■ Platform: Arcade

With *Defender* I wanted to do a game that broke new ground, to create the ultimate experience I craved as a gamer. The expanded universe of multiple scrolling screens provided both depth of gameplay, plus it was a real adrenaline rush to fly around the planet at insane speeds, rescuing and protecting the astronauts on the ground from the enemy assault. The elements of trajectory and collision, life and death, are very basic, challenging player's instincts in an intuitive way. A key element of the design, in addition to the violence, explosions, and killer graphics, was presenting the player with multiple goals and threats at all times. So not only do you have to engage the twitch centres of your brain but also a higher level of decision-making. This created the Total Brain Rush (TBR) that players craved! I remember when we launched the game people didn't know what to make of it because it had so many buttons. But I think that's what added to its long term appeal… In the hands of a *Defender* virtuoso the game can be amazing to experience. In the hands of a novice it is a nightmare of complexity!

98 Civilization IV

■ Year: 2005 ■ Platform: Various



A brilliant reimagining of the classic historical turn-based strategy game for modern platforms, *Civ IV* made Sid Meier's masterpiece more accessible than ever before, incorporating an all-new 3D engine and adding new features like fully promotable units, religions and a hugely enjoyable multiplayer mode.

97 Metal Gear Solid 3: Snake Eater

■ Year: 2004 ■ Platform: PS2

After *Sons Of Liberty*, this sequel returned to what made the series great, immersing players in a Cold War setting which saw Snake stalking through jungles relying on his wits, camo and his combat prowess.

96 Portal 2

■ Year: 2011 ■ Platform: Various

Featuring the welcome return of GLaDOS, one of gaming's greatest antagonists, this post-apocalyptic return to the Aperture Science Labs raised the bar in terms of graphics, environments and often hilarious dialogue courtesy of Stephen Merchant as paranoid robotic companion Wheatley.

95 Final Fantasy IX

■ Year: 2000 ■ Platform: PSone

Squaresoft pleased long-term *FF* fans with this last outing on the PSone, discarding the futurism of *VIII* and reverting to a medieval setting harking back to its much-loved classics on the Nintendo consoles.

94 Super Castlevania IV

■ Year: 1991 ■ Platform: SNES

Still one of the finest entries in Konami's vampire-slaying franchise, *Castlevania IV* was an excellent showcase for the SNES with its epic whip-flailing boss fights, fiendish level design and brilliant soundtrack.

Turn to page 118 for our full making of Super Castlevania IV

93 Advance Wars

■ Year: 2001 ■ Platform: GBA

The perfect pocket-sized strategy game, *Advance Wars* was an essential purchase for GBA owners, and showed publishers that it wasn't just Japanese gamers that loved turn-based tactics.

92 Alex Kidd in Miracle World

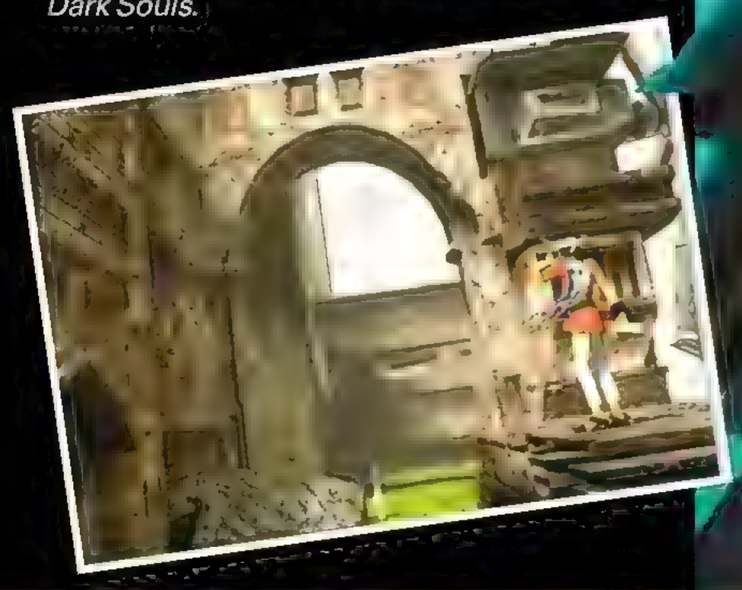
■ Year: 1986 ■ Platform: Master System

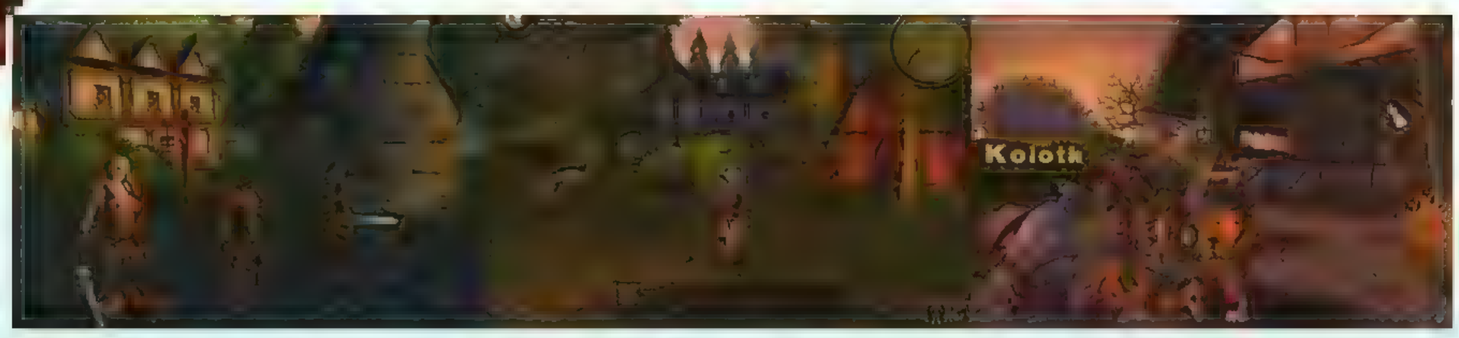
Before Sonic, lovable monkey-boy Alex Kidd was Sega's unofficial mascot, and in many ways his colourful platform game debut is an even more impressive achievement than *Super Mario Bros.*.

91 Ico

■ Year: 2001 ■ Platform: PS2

A haunting and supremely stylish puzzle-platform adventure, *Ico* remains one of the most creative and touching fantasy game experiences of the past few decades, influencing the design of recent classics like *Dark Souls*.





WAR BY NUMBERS

90 World Of Warcraft

■ Year: 2004 ■ Platform: PC

It might not have been the first MMO, but it is arguably the most influential, leaving behind a legacy that has been copied by virtually everything in its wake. You'll never forget your first trip to Azeroth and one visit is never enough.

■ *World Of Warcraft* was the **fourth released game** set in the fantasy *Warcraft* universe.

■ It is officially the highest grossing videogame of all time, making in excess of **ten billion US dollars** by July 2012.

■ Developer Blizzard Entertainment still earns roughly **one billion US dollars** yearly with the game.

■ Over **12 million** physical boxed copies of the game have been sold since its launch in 2004.

■ In January 2014 Blizzard announced that over **100 million user accounts** had been generated in the game's lifetime.

■ Roughly **48 per cent** of the game's subscriber-base is in Asia. The second biggest player base is the USA with around **22 per cent**.

■ The realm of Azeroth in which the game is set is approximately **80 square miles**, about four times the size of Manhattan Island.

■ The Hunter and Death Knight are the most commonly used character classes in the game, both netting around **11 per cent** of users.

■ The most popular profession in Azeroth is mining, with **35.8 per cent** of players choosing to don a helmet and seek wealth underground.

■ **One in every five** *World Of Warcraft* players is female.

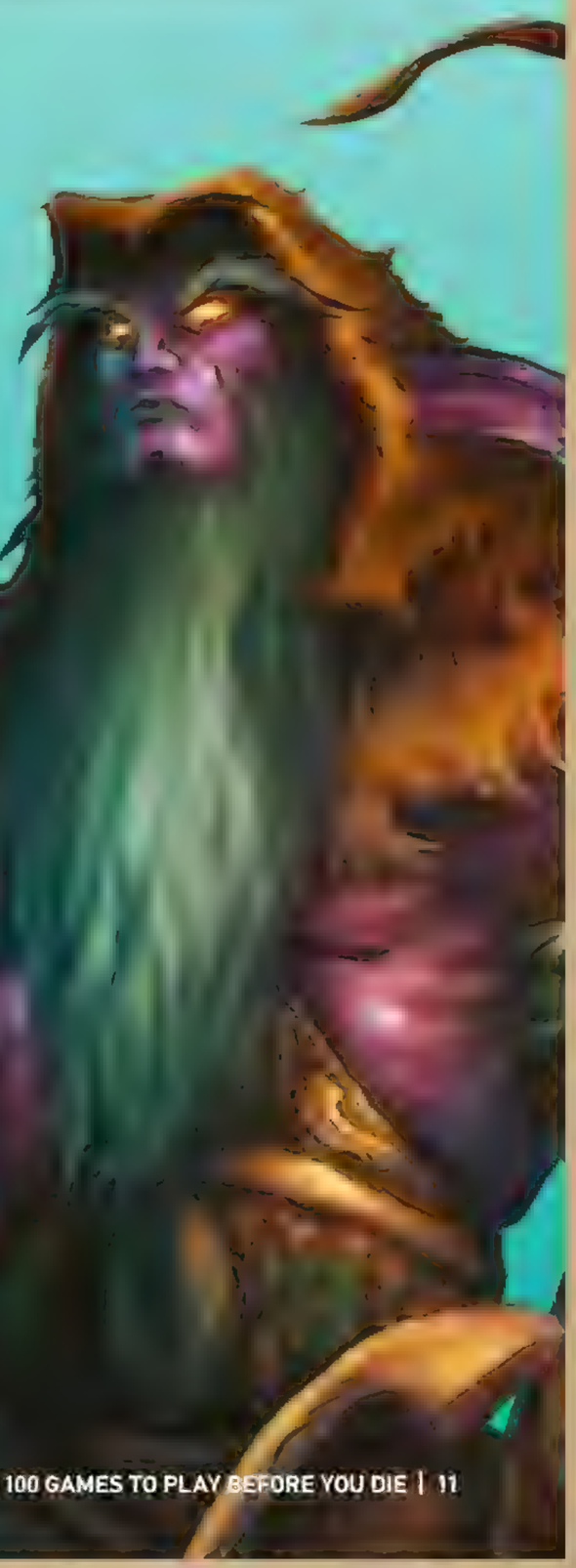
■ According to Blizzard's Frank Pearce the game is constructed from **5.5 million** lines of code.

■ In 2009 the game already contained **70,000 spells** and nearly **40,000 non-player characters**.

■ **Five expansions** have been released for the game to date, with a sixth, *Legion*, to come in mid-2016.

■ One of the rarest mounts in the game is the Heavenly Onyx Cloud Serpent, with a drop chance of just **0.03 per cent**.

■ With over **100,000 pages**, WOWWiki is the largest community-run website of any videogame on the internet.



89 Streets Of Rage

■ Year: 1991 ■ Platform: Mega Drive

Mega Drive owners might not have had *Final Fight*, but they didn't need it – Sega's unashamed clone *was* every bit as good, thanks to tight gameplay and an amazing soundtrack.

Turn to page 124 for our full making of Mega Drive classic, Streets Of Rage

88 Quake

■ Year: 1996 ■ Platform: PC

Doom was a tough act to follow, but id Software managed it by creating a full-3D first-person shooter that became a leading light of the online multiplayer scene.

87 The Legend Of Zelda

■ Year: 1986 ■ Platform: NES

In an age of simple arcade action games, *Zelda* stood out by offering players an absorbing quest across a wide-open map. Plus, who could forget the oft-revisited musical accompaniment?

86 Final Fight

■ Year: 1989 ■ Platform: Arcade

Mike Haggar's quite direct, isn't he? Most mayors start a scheme to combat crime – Capcom's favourite politician walks down the street punching criminals right in the face.

Turn to page 90 where we talk to director, Yoshiki Okamoto about Final Fight

85 Grand Theft Auto: San Andreas

■ Year: 2004 ■ Platform: PS2

The final *GTA* of its generation took the series to the early-Nineties LA, and added mechanics that allowed protagonist CJ to improve his fitness, appearance and more.

HOW SEGA MADE ITS ICONIC SHOOTER

84 Rez

■ Year: 2001 ■ Platform: Dreamcast

How did you decide on *Rez*'s abstract wireframe look?

Jake Kazdal: I was out clubbing in Tokyo and on the wall a VJ was playing one of the early Winamp plug-ins, with the wireframe mesh being distorted by the music and pulsing different shapes and colours. I was awestruck, so I took video of it with my friend's camera, and showed it to [Shuji] Utsumi-San (now the CEO of Q Entertainment, but then head of Sega R&D) and Mizuguchi-san the next Monday, and it stuck. The wireframe look was born! We had been through many major look changes, so I wasn't sure this one was going to stick, either, but the team quickly took a liking to it.

Rez's boss battles were epic multi-stage encounters. How were these designed?

Osamu Kodera: The boss encounters were the result of a collaboration of the boss artist and myself. First he would create a simple storyboard, sort of like a four-frame comic strip.

YOUR GUIDE TO REZ'S LAST AREA

■ The level starts off even less structured than most, and unusually has a light background – this is clearly something different.

■ Attacks come far faster and more ferociously than in other stages, including an assault from this gigantic... well, thing.

■ As you move through each area, Katsumi Yokota's poem about evolution fills you in on the theme of the stage.

The artist and myself would then discuss the details and workflow. I'd then create a rough prototype, and if it seemed to work we'd continue our progress, but if it didn't work, we'd go back to step one. The biggest challenge was to incorporate and condense a variety of ideas into a short boss battle experience. All of the bosses were reconstructed at least three times.

Area 5 is a memorable final stage which differs noticeably from the earlier stages. What inspired it?

Katsumi Yokota: Area 5 differs from the other stages as it has a message incorporated into the design. Looking back now, I am a little embarrassed by the text that appears every time there is an area change. This was taken from a sort of poem that I wrote about the evolution of life. The backgrounds in each area were designed based on this text. I wrote this text as homage to the birth of life, the repeated process of mass extinctions, and the unending chain of life that creates such weird and wonderful lifeforms.

Looking back at *Rez*, how do you feel about the game?

Tetsuya Mizuguchi: Creatively speaking I was very happy, but from a business point of view I felt a little bit sad. I didn't expect too much at the time, but many people expected much bigger sales, like marketing people and business people. My feeling is that the reaction to *Rez* is bigger now than it was. I'm happy and surprised that people continue to talk about *Rez*.

HOW CAPCOM PERFECTED A CLASSIC

83 Resident Evil

■ Year: 2002 ■ Platform: GameCube

- It extensively redesigned puzzles and a new mansion layout means that your experience of the original game won't help you.
- The new re-reanimated Crimson Head Zombies provide a nasty surprise for all players, and fundamentally alter your approach to enemies.
- New defensive items give you more combat options when you're in a bind, and provide some uniquely gory enemy deaths.
- The indestructible test subject Lisa Trevor gave the game a brand new impact moment to close out the first disc.
- Fully redrawn visuals made the game look phenomenal in 2002, and held up superbly well in the 2015 HD re-release.

THE PERFECT GAME?

82 Super Mario Galaxy 2

■ Year: 2010 ■ Platform: Wii

Nintendo's sequel did that rare thing – it improved on its predecessor in every possible way. *SMG 2* remains a stunning platformer that we never tire of.

100%
The score we gave it in issue 79

0
Number of other games we've awarded a full 100%

49
Galaxies to visit

1
Number of years development was meant to take

6,720,000
Number of copies sold

242
Stars to collect

97
The game's score on Metacritic

2.5
Number of years development actually took

81 Turrican II
■ Year: 1991 ■ Platform: Various

This is as close as Dolph Lungren is ever going to get to a 'Greatest Games Ever' feature – the *Universal Soldier* movie tie-in reskin may not have made the list, but the amazing scrolling shooter on which it was based did. Good work, people.

80 Command & Conquer
■ Year: 1995 ■ Platform: PC

As if this seminal RTS was going to miss out on the action. A console release (with mouse support on PSone, no less) won't have hurt its chances, and the live action cut scenes have somehow managed to age worse than the game itself.

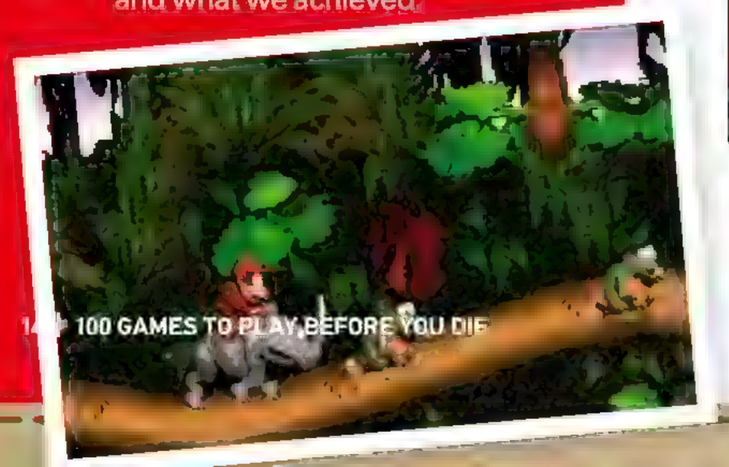
Turn to page 146 where we discuss the creation of Command & Conquer

79 Silent Hill 2
■ Year: 2001 ■ Platform: PS2

At a time where jump scares ruled, Konami managed to make a horror game which for psychological oppression. Perfect design and world-building mean this list would be worse were it not for the involvement of Harry Mason.

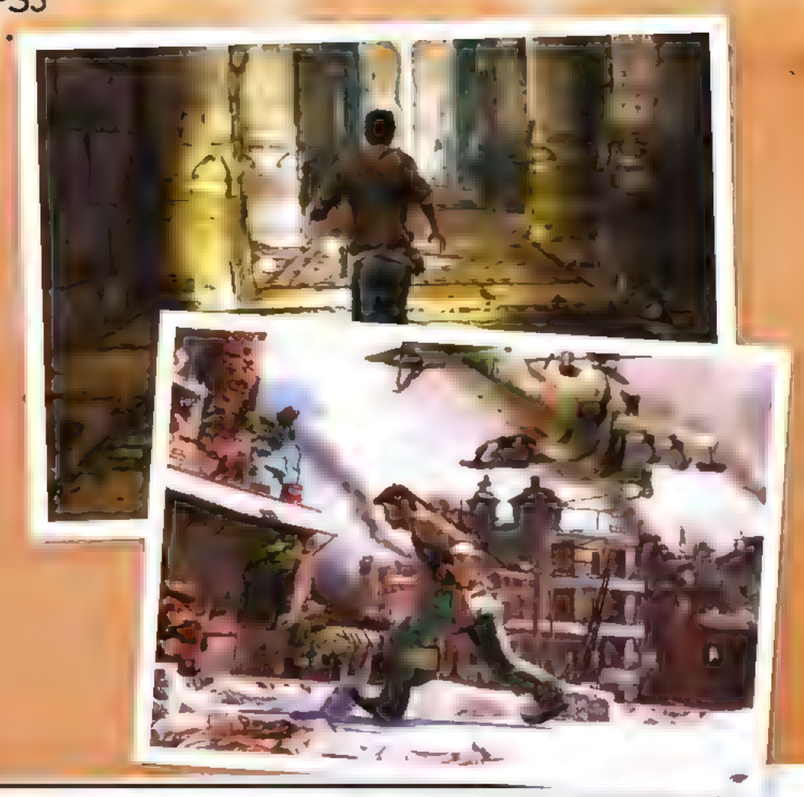
78 Kevin Bayliss on Donkey Kong Country
■ Year: 1994 ■ Platform: SNES

It's simply so memorable, the game played so well, and it was a perfect way to reintroduce *Donkey Kong*. The technique we used to create the 3D-looking sprites worked amazingly and it breathed new life into the SNES. I'll always be proud of the game and what we achieved.



BRINGING THE EXCITEMENT OF THE CINEMA TO YOUR CONSOLE

77 Uncharted 2
■ Year: 2009 ■ Platform: PS3

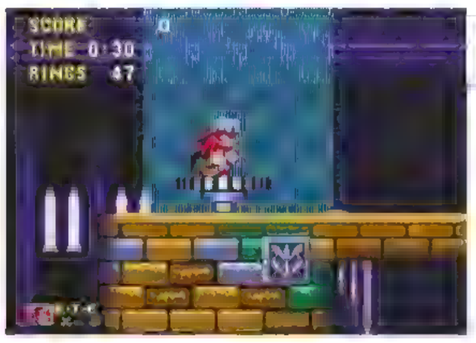


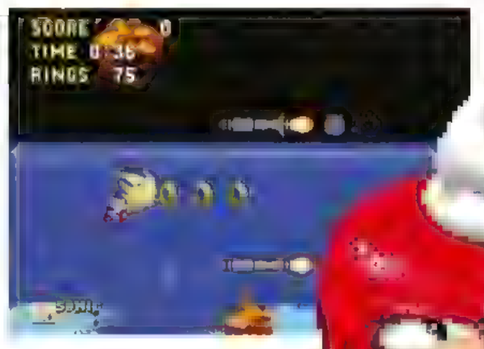
Few developers understand the importance of a strong opening quite like Naughty Dog clearly did in creating *Uncharted 2*'s prologue. Non-linear narrative allowed the team to open with the stunning set-piece that sees an injured Drake painstakingly climb dangling train carriages, before starting the game proper via a flashback that puts everything in perspective. While the original release stands up primarily as a solid proof-of-concept, the sequel remains one of the greatest action games ever made and it's telling of its quality that even *Tomb Raider* – a franchise which itself helped shape the likes of *Uncharted* – finds itself referring back to this gaming touchstone. Set-pieces are on point (the supernatural guff that kicks in later perhaps notwithstanding), platforming and gunplay are more than tight enough to carry the game but it's the cinematic nature of *Uncharted 2* that scores it a place in the history books, blurring the lines between Hollywood and Silicon Valley in an action gaming experience that is arguably still to be matched in terms of impact.

10 FOR 10

76 Final Fantasy X
■ Year: 1996 ■ Platform: PS2

- It was the first *FF* to be fully voiced... if perhaps not all that well.
- The Sphere Grid offered unparalleled customisation of your chosen party.
- Shifting to full-3D environments gave a real sense of exploration and discovery.
- Blitzball remains one of the single greatest mini-games of all time.
- The laughing scene is *supposed* to be awful. It's all about Tidus and Yuna's awkwardness, after all.
- Seymour's hair is as inexplicable today as it was at launch. It looks like antlers but apparently, it isn't.
- *Otherworld* actually evolved into a great piece of music when recorded by Uematsu's band, The Black Mages.
- Speaking of which, *FFX* is the last mainline game where Uematsu was the primary tunesmith.
- Post-game secrets like the Dark Aeons afforded the game even more longevity.
- Making Kimahri such as waste of space made it much easier to decide on a solid party.





SEGA'S MASCOT SEES RED

75 Sonic 3 & Knuckles
■ Year: 1994 ■ Platform: Mega Drive

It's no surprise to see make *Sonic & Knuckles* make the list here in some form – with its plug-through cartridge allowing for previous games to be modified as well as the main adventure as well, it's effectively four games in one. Well, assuming you count the ability to play the bonus stage by using a cart other than *Sonic 2* or *Sonic 3* as a separate game, anyway. With the main *Sonic & Knuckles* game showing a shift towards the slower pace and exploration focus that later games like *Sonic CD* would take further still, it's also no surprise that most votes for this came for *Sonic 3 & Knuckles* – both *Sonic 2* and *Sonic 3* had a noticeably faster pace and better flow to stages, plus the ability to glide and climb as Knuckles gives players the option for additional freedom and exploration as well. It's the best of both worlds, really. Even though *Sonic & Knuckles* itself may have been a more richly detailed game visually, going back to the older games via its novel plug-through option never felt like a step back and even today, those older games retain the same character and charm thanks largely to the excellent (if decidedly Nineties) art style.

MARK PACINI AND KENSUKE TANABE DISCUSS THE CREATION OF RETRO STUDIOS' HIT GAMECUBE GAME

74 Metroid Prime ■ Year: 2002 ■ Platform: GameCube

» Mark Pacini

» Kensuke Tanabe

Why shift *Metroid* into a first-person adventure game?

MP: When *Metroid Prime* was released, no one else was concentrating on the exploration and platforming elements in a first-person game. We were dubbed as an FPA (first-person adventure), which to us meant that the core gameplay was not about shooting enemies but rather the immersive experience of being Samus and exploring the environment. We were able to differentiate our game by focusing on those aspects, and I think people felt it to be unique.

Is it true Shigeru Miyamoto was involved with *Metroid Prime*?

MP: Mr Miyamoto came to us with the idea of playing a *Metroid* game from the first-person perspective. He felt that the best way to play a 3D game where the character had a gun was from a first-person viewpoint. At first, we were not seeing his vision and we knew the fans would have the same initial reaction. However, as we started down this path, many unique gameplay opportunities came to light and we began to get very excited about the possibilities. If we were excited, *Metroid* fans probably would be as well.

What were your inspirations?

MP: Our main inspiration was *Super Metroid*. That's all you need. We also tried to preserve the essence of the *Metroid* experience in its move to 3D. It couldn't just be a 3D game starring Samus. It had to be *Metroid*. That was probably the most difficult part of the whole development process.

What can you tell us about the scanning mechanics?

KT: During the process of developing *Metroid Prime*, we asked Retro Studios to incorporate a visor system into the game in order to make it clearly new and differentiated from first-person shooter games. We set up the 'Scan Visor', which was a visor that the player used to scan necessary information, as one of plural visors, we thought this feature would help users who wanted to know more information about the setting by actively utilising, for example, a Pirate Log.

MC: The main reason for scanning was to give more motivation for the player to look around and explore the environment. It also helped remind the player to use their different visors throughout the game. As the series has continued, the scanning feature has played less of a role, but we still find it is very useful in terms of giving the player hints and information.

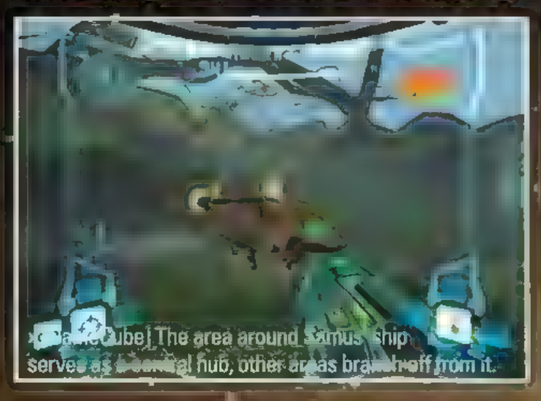
> **"The player was able to play the entire game without a break in the action"**
>
> Mark Pacini

What do you feel that specifically made *Metroid Prime* such an immersive experience?

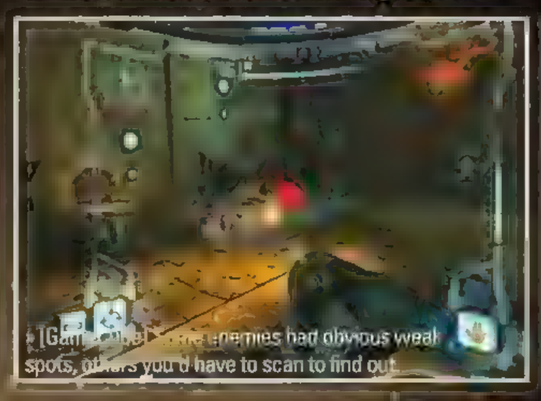
MP: Probably the feature that really helped immerse the player was the absence of loading screens. The player was able to play the entire game without a break in the action.

Were you concerned *Metroid Prime* might be too difficult?

KT: These days, such games that a player can complete by just spending time playing without deeply thinking may tend to be welcomed more. From that perspective, *Metroid Prime* can be seen as a very tough game. However, Nintendo's game philosophy is that we hope users feel accomplishment and are impressed by thinking while playing the game. We also want players to feel their skills are improving.



» [GameCube] The area around Samus' ship serves as a central hub, other areas branch off from it.

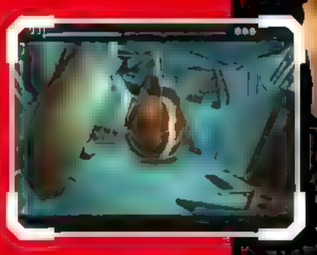


» [GameCube] Some enemies had obvious weak spots, others you'd have to scan to find out.

5 THINGS THAT DEFINE METROID PRIME

USE OF 3D

■ The move to 3D was just as assured as Nintendo's earlier franchises jumping to 3D on the N64.



SCANNING

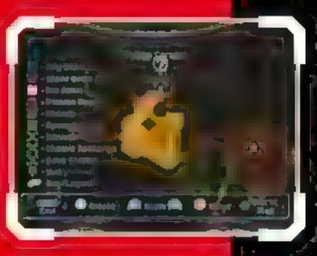
■ Scanning pretty much everything proved to be a clever way of delving into *Prime*'s backstory.

ENVIRONMENT EFFECTS

■ Steam, lightning strikes and other elements all display on Samus' visor.

MAP

■ The map for *Metroid Prime* was not only unique to the series, but was also a joy to use and incredibly helpful.



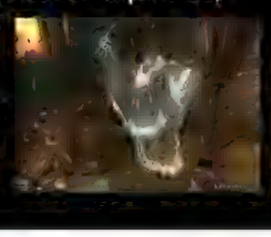
BOSSES

■ While some of the bosses are a little familiar, they're still immensely challenging to battle against.

73 The Elder Scrolls IV: Oblivion

Year: 2006 Platform: Various

You don't realise how claustrophobic the opening of *Oblivion* is until you step out into an open wilderness that's full of possibilities and exciting quests. It's a living, breathing world that just begs to be explored, while the plot itself is a huge improvement over the earlier games in the series.



72 Mario Kart 64

Year: 1996 Platform: N64

The second game in the series saw it move into party territory, due to the open tracks and the introduction of the spiny shell. While it's not our personal favourite *Mario Kart* game, there's no denying that the large number of tracks and fantastic multiplayer constantly kept you playing.

71 Red Dead Redemption

Year: 2010 Platform: Various

Essentially it's just *GTA* on a horse, but look past those similarities and you'll find *RDR* to be an assured open world game. The story and characters are a cut above their *GTA* counterparts and it's supported by *Undead Nightmare*, one of the best pieces of DLC in recent memory.

70 Secret Of Mana

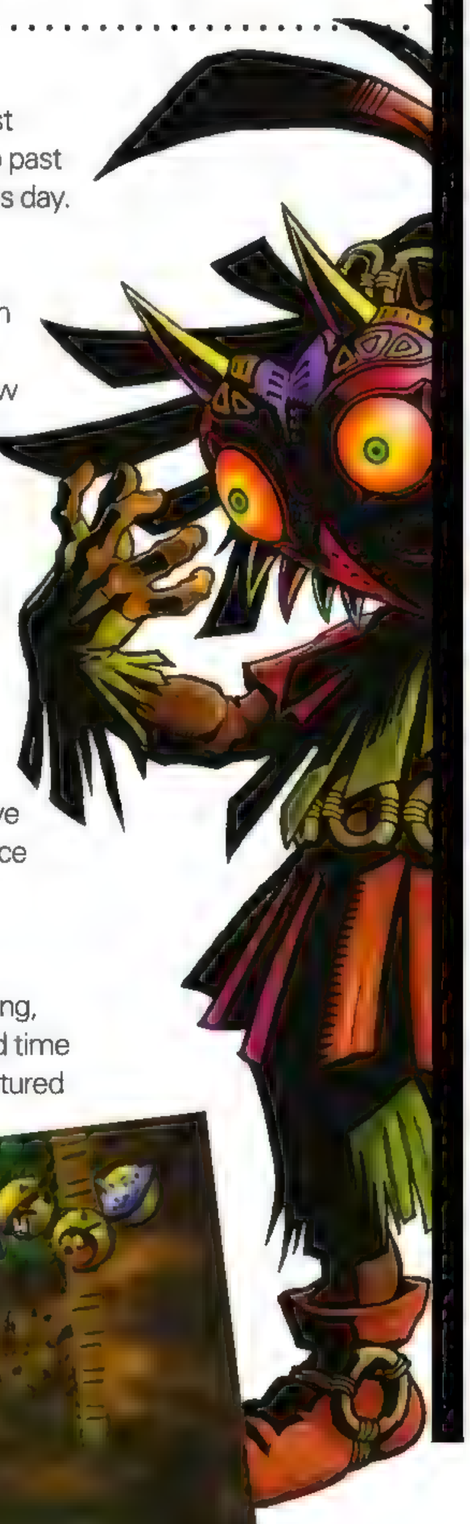
Year: 1993 Platform: SNES

Square's *Mana* series came of age on the SNES, building upon the Game Boy adventure games to deliver a truly gripping adventure. While the combat is simple, the unique NPCS, assisting characters and fantastical setting keeps your attention. Little wonder it now fetches insane prices on eBay.

WHY THIS ZELDA IS DIFFERENT TO THE REST

69 The Legend Of Zelda: Majora's Mask

Year: 2000 Platform: N64



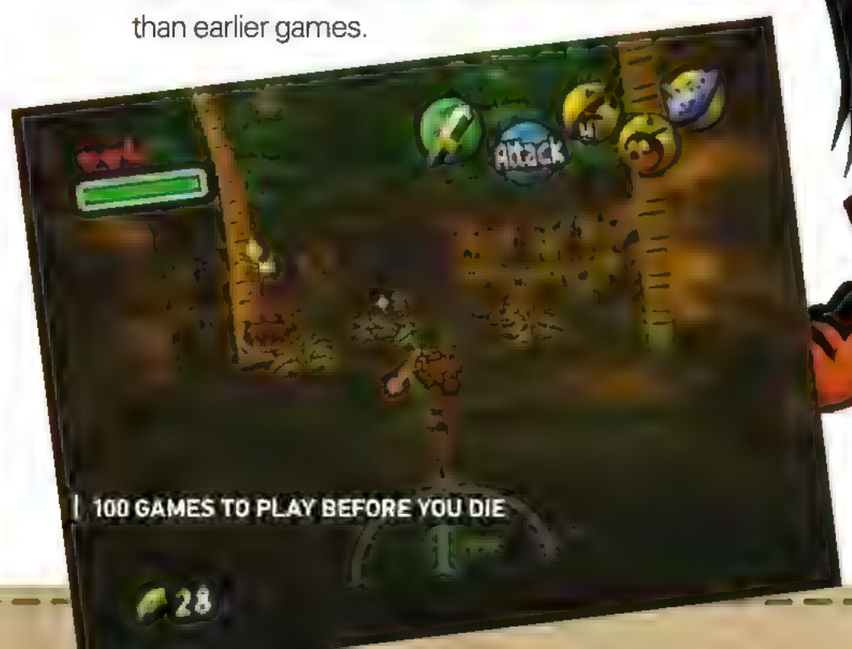
Three days...
Having to complete the game in just three days was radically different to past *Zelda* games and divides fans to this day.

Masks
There are 24 different masks, which give Link a range of unique abilities that include getting animals to follow him and attracting stray fairies.

Darkness
Its alternate universe allowed Nintendo to make a game that was much darker in tone to previous games.

Expansion Pak
The N64 expansion pack was critical, allowing Nintendo to improve the game's aesthetics, draw distance and add more in-game characters.

Complex narrative
Majora's Mask features an interesting, engaging story that revolves around time travel. As a result it's far more structured than earlier games.



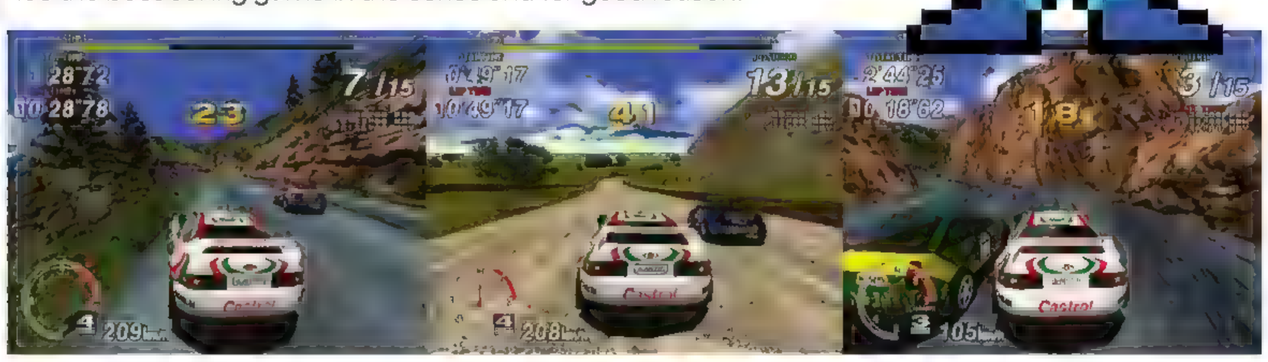
CAPCOM'S MEGA SEQUEL

68 Mega Man 2

Year: 1988 Platform: NES

Turn to page 84 for our ultimate guide to Capcom's Mega Man 2

If ever one *Mega Man* was going to make your list it was going to be Capcom's sequel to the original. It not only massively improves on the numerous imbalances found in the first game, but sets the template for many later *Mega Man* games, too. It's still a painfully tough game in places, but the level design feels far tighter and fairer than the original *Mega Man*. It dumps the score system of the original game, gives you eight and not six bosses to fight (a trope that would remain for later games) and adds a useful password system. It's the best-selling game in the series and for good reason.

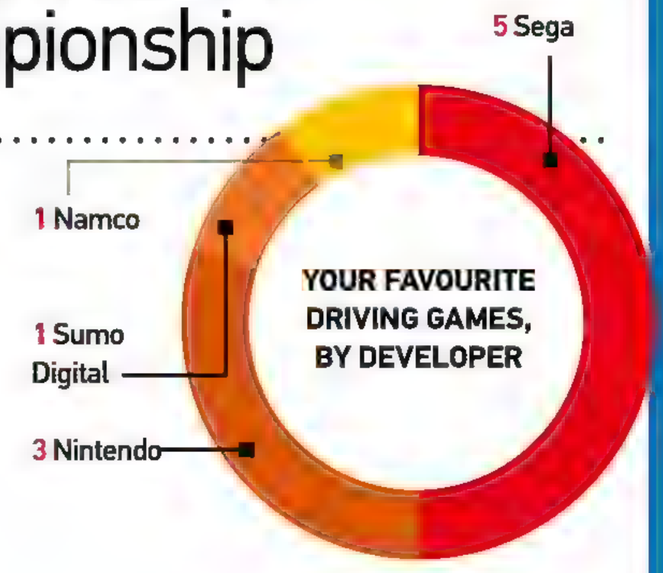


GAME OVER, YEAH!

67 Sega Rally Championship

Year: 1994 Platform: Arcade

Sega Rally can be beaten in full, with all the secrets seen, in less than five minutes. However, the three (or four) tracks you'll play in that brief time are so well-designed that every turn becomes seared into your memory, as you fight the terrain to achieve the fastest possible time. You'll expect to play for five minutes and end up playing for years.



ANDREW BRAYBROOK GOES OVER THE RAINBOW

66 Rainbow Islands

■ Year: 1988 ■ Platform: NES

All of Graftgold's *Rainbow Islands* ports were impressive. Which is your personal favourite and why?

My favourite actually might have been the Sega Saturn version in enhanced graphics mode. We got to use a bit of semi-transparency on the rainbows, and added an extra back-layer of graphics, so we could be a bit creative. Taito quite liked what we did, and let us continue, whereas I believe it vetoed the *Bubble Bobble* equivalent. Our graphics artist Colin Seaman, led the graphics in just the right way to do a splendid job in keeping with the original style. Can't praise his contribution highly enough. I believe we got everything running at the proper 50 frames-per-second, which even the mighty Amiga was unable to do.

In terms of achievement, Gary Foreman did a great job on the C64 as there was a lot of movement going on, and despite colour attribute difficulties the Spectrum version also coped better than we thought it would.

How challenging was it to recreate the power of arcade games on 8 and 16-bit computers?

We were chasing the arcade in terms of colours and number of sprites. *Rainbow Islands* only had one layer of 8x8 pixel backgrounds, but then used another one for the sea rising. We had to be a bit inventive with simulating that. The sprites had more and different colours than the backgrounds, I reckon they had maybe 16 palettes of 16 colours available. We had to resolve that down to one palette of 16 colours on 16-bit, and less on the 8-bits.

Why do you think *Rainbow Islands* proved to be so popular with gamers?

A lot of design time had gone into the game at Taito, we could see that from the massive folder of documentation we received. It looked like up to two years of design work. Some of it had changed over the project so we couldn't always tell what made it into the final game. There's a lot in the bonuses and upgrades that isn't immediately obvious, but can be determined over time. Even the simplicity of getting the gem colour that you want, it's so obvious when you know how.

What are your thoughts on *Rainbow Island*'s play mechanics?

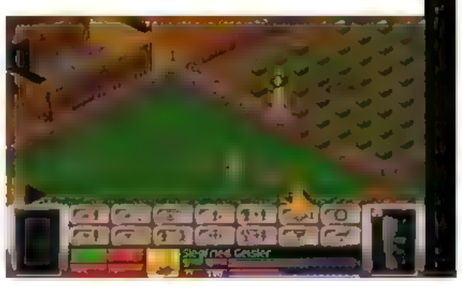
I learned a lot from how the bonuses worked, and how the meanies all did or didn't interact with the background. Presentation is excellent, the 'GOAL IN!' sequence, for example, is all very grand and well thought out. We had enough documentation to make our conversions very accurate in terms of how they played, the look would vary depending on the hardware. There're also three different endings. We thought there were only two, but we had some graphics we hadn't seen, and imagine our surprise when we discovered the three islands that popped up. Nobody knew they were there and we had quoted for seven islands. The extra three islands lead to the third ending but are as big as the first seven and we had less graphics supplied. It would have taken us a lot more time. Even when we got the job for the Saturn, PlayStation and PC versions we were only asked to convert the first seven.

UF-WHOA!

65 UFO: Enemy Unknown

■ Year: 1994 ■ Platform: PC

The isometric viewpoint of *UFO: Enemy Unknown* should make you feel less connected to your troops. Well, it doesn't – we're still torn up whenever we lose a veteran to a tactical slip-up and a lucky alien shot. Turn-based strategy is rarely better than this.

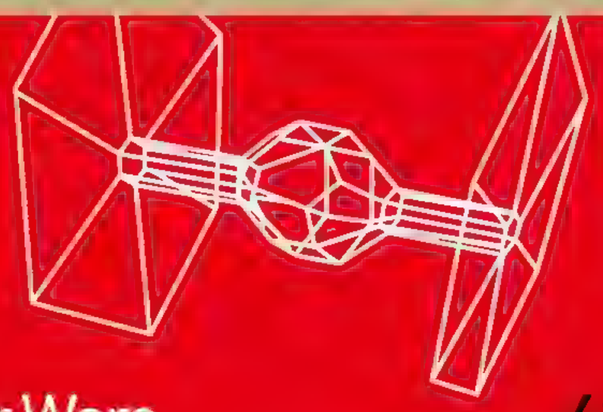


PLATFORM HEAVEN

64 Banjo-Kazooie

■ Year: 1998 ■ Platform: N64

We're not surprised to see *Banjo* chart so high. Alongside *Super Mario 64*, it rates as not only one of the best platformers upon the system, but also the genre too. Rare created an imaginative, wonderous world and tied it to two ridiculously lovable characters. Little wonder there's so much interest in spiritual follow-up *Yooka-Laylee*.



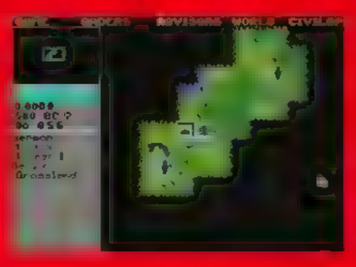
63 Star Wars

■ Year: 1983 ■ Platform: Arcade

Be Luke Skywalker? Check. Use the power of the force? Sure, you got it. Blow up the Death Star? But of course! Atari's classic vector coin-op perfectly captured the X-wing fantasies of just about every human being on the planet in 1983, and it still does.

62 Civilization

■ Year: 1991 ■ Platform: PC



Are you up to the challenge of building an empire upon which the sun never sets? Sid Meier's turn-based strategy game was as influential as it was enjoyable, thanks to the challenge of taking your empire from 4000 BC to the near future.

61 Portal

■ Year: 2007 ■ Platform: PC

This highly innovative first-person puzzle game challenges you to think in full 3D, thanks to its innovative multi-purpose gun. With singing AIs, companion cubes and the promise of cake, this short adventure lingers in the memory for years after completion.

PLAY'S LUKE ALBIGÉS PUTS EVERYTHING ON THE LINE

60 Mass Effect 2

■ Year: 2010 ■ Platform: Various

How did Bioware improve on *Mass Effect*?
To be honest, I think the original actually did a better job than *Mass Effect 2* in terms of lore-building... but that's only because the second game barely had to worry about that side of things. BioWare did *such* a good job of creating a sci-fi universe with the series opener that *Mass Effect 2* had far more space and freedom to grow as a game, something it absolutely did by pushing every other aspect to new heights.

Why is it considered the best game in the series?
Of the three, it strikes by far the best balance between narrative and action. The first game's aforementioned emphasis on lore made it feel more like an introduction than a game after having played the sequel, while *Mass Effect 3*'s action bent and ludicrous conclusion felt like a waste of all that hard work. To this day, I still can't believe it actually gave players the option to forgo story altogether...

Was losing the Mako a good idea?
Absolutely. Surface exploration was underdeveloped and getting it right would have required a significant redistribution of the resources *Mass Effect 2* clearly put to better use elsewhere. I certainly didn't miss it at all.

What made *Mass Effect 2*'s climax so good?
It's a combination of things, really. The so-called 'Suicide Mission' was expertly set up to feel like a last resort, one final push from which some (or all) of the crew might not return. Pair that with the fact that it comes after spending hours building relationships with those characters and their potential expendability becomes all the more powerful. Even when you were in control, clever design left a lingering fear that something could still go wrong at any turn.

Turn to page 68 for our full making of feature on Paradroid

INFLUENCER 001 REPORTING

59 Paradroid

■ Year: 1985 ■ Platform: Various

Andrew Braybrook's stunning shoot-'em-up remains one of the best games on the Commodore 64. It's perfectly balanced, has clever, deliberate gameplay and features a host of different robots to attack and master.

001
The number of the Influence Devices you control

999
Controlling this unstable droid is the ultimate achievement

97%
The score Zzap!64 awarded the game

8
The number of ships in the game

#1
Its position in our Top 25 C64 Games feature

50%
The speed increase to Paradroid Competition Edition

KEN SUGIMORI AND JUNICHI MASUDA TALK POKEMON... IT'S SUPER EFFECTIVE!

58 Pokémon Red & Blue

■ Year: 1996 ■ Platform: Game Boy

Pokémon Red And Blue is one of just two games which originated on the monochrome Game Boy to make this list!

Pokémon spent quite a long time in development – why was that?

Sugimori: It took about six years from the start of the concept to execution. We started the project right after *Quinty* was released and initially, we were aiming to have about fifty Pokémon. But every year, the technology improved so while it started at 50, by the end of about the fourth year we realised that we could do about 150 *Pokémon*. In that sense, I suppose we didn't really have a set target number – it just depended on the technology we had at the time.

Why include different Pokémon types?

Sugimori: By adding even one more type, it definitely makes the gameplay more complicated. So when we did that we had to really look into the battle balance – with new moves, there's an almost infinite combination. If we can solve that problem, we can always add more types – it's not impossible.

The series' most distinguishing feature is its emphasis on multiplayer gaming, which is unusual for RPGs. Why did you focus on this?

Masuda: People say that when you play videogames, you're usually playing on your own, so we wanted to create an experience where you can play the game but still play together with friends at the same time and all have fun. That was the basic idea I had in my mind when working on this game. You can battle together and trade with friends and family – you could even take your game to a store, find someone you never met and ask them to trade *Pokémon* or play together.

Why do you feel that _Pokémon_ remains so successful after so many years?

Sugimori: At its simplest, it boils down to the fact that it's easy to understand and it has incredible diversity. The characters used today in the TV show or in the movies are based on the ones we create for the games and through its features, its abilities and its shape, you can quite easily get an idea of what kind of Pokémon it is. There's a great mix of cool and cute monsters, making it easy for the audience to pick their own favourite.

EXCLUSIVE TO

Pokémon Red	Pokémon Blue
Ekans	Sandshrew
Arbok	Sandslash
Oddish	Vulpix
Gloom	Ninetales
Vileplume	Meowth
Mankey	Persian
Primeape	Bellsprout
Growlithe	Weepinbell
Arcanine	Victreebell
Scyther	Magmar
Electabuzz	Pinsir

57 Bioshock

■ Year: 2007 ■ Platform: Various

This FPS featured one of gaming's greatest worlds in the underwater city of Rapture, and offered memorable gameplay too thanks to terrifying Big Daddy encounters and plasmid powers.

56 Dungeon Master

■ Year: 1987 ■ Platform: Atari ST

Real-time exploration made the corridors of *Dungeon Master* a dangerous place to be – safe places were rare indeed. Other developers took years to catch up with this phenomenal RPG.

55 Jet Set Willy

■ Year: 1984 ■ Platform: Various

It might have needed a couple of pokes and a Quirkafleeg to make it work properly, but the stunning sequel to *Manic Miner* is one of the most iconic platformers of the 8-bit era.

54 Dark Souls

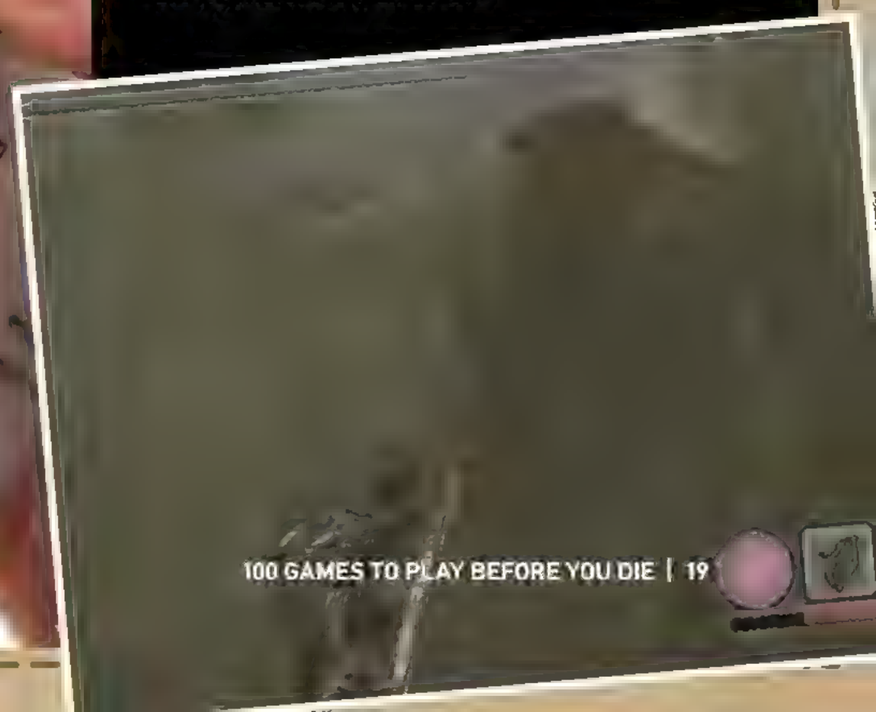
■ Year: 2011 ■ Platform: Various

If you think that modern videogames are a bit soft, you owe it to yourself to play *Dark Souls*. From Software's brutal RPG is a compelling experience, blending strong design with an unrelenting – but rewarding – difficulty curve.

53 Shadow Of The Colossus

■ Year: 2005 ■ Platform: PS2

Essentially a series of battles against colossal bosses, this action-adventure game maintains a solemn atmosphere thanks to its barren setting and its plot. Victory has never been quite so bittersweet.



STRONG THE FORCE IS WITH GREG ZESCHUK

52 Star Wars: Knights Of The Old Republic

■ Year: 2003 ■ Platform: Xbox

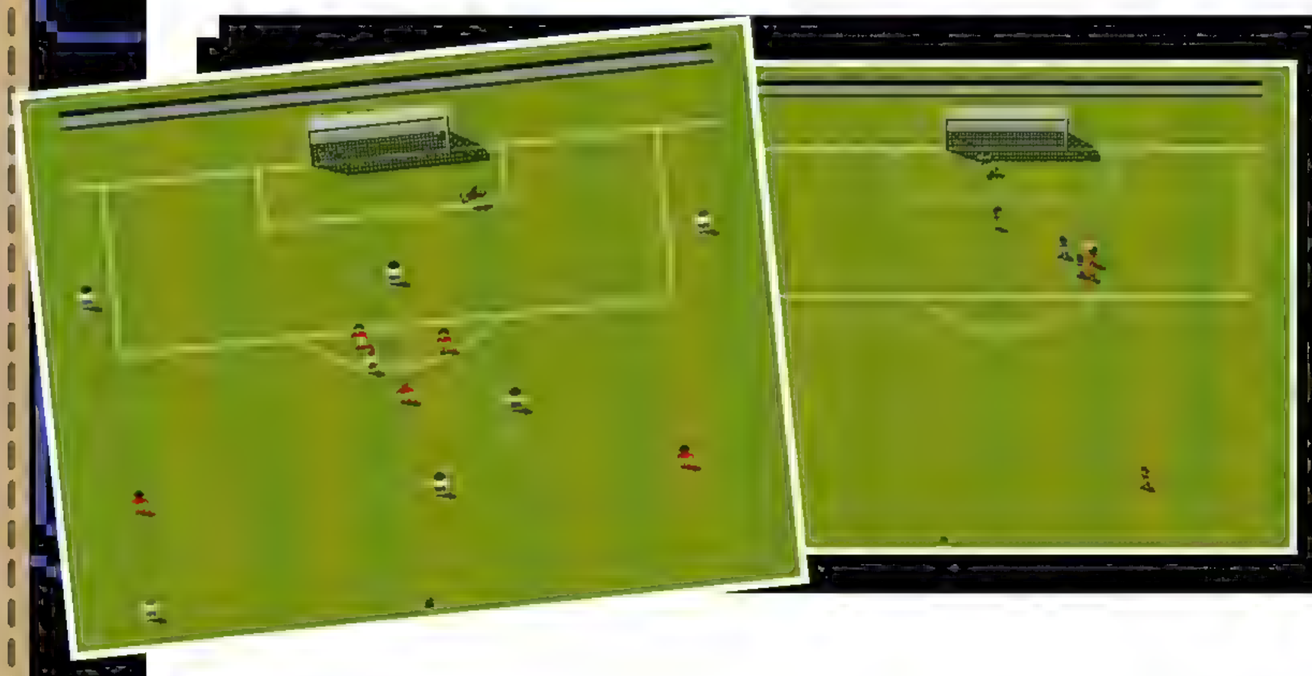
How much freedom did you have when creating *KOTOR*?
We had a great relationship with LucasArts, so that was the foundation of the freedom we had with *KOTOR*. There was a lot of mutual trust. We also decided to pursue the period thousands of years prior to the movies as the setting for the game because we knew that any games set around the movies had a lot more scrutiny. We had the choice of that period, or the time just after *Episode V*. In the development of the game itself we had a lot of freedom in deciding what to create and how it would be made. We worked with the production team at LucasArts and ran everything past them, but we took the lead on the development.

How important was it to move away from the earlier films?
We wanted to be unique and special, as well as having good development flexibility, so it was very important to be separate from the movies. Thus the Old Republic period choice. We wanted to create an environment for *KOTOR* that was still reminiscent of the movies, but also fit well into a period thousands of years before them. Ship and character designs should have some similarity, but be clear precursors to what people are familiar with from the films. However they still had to stand alone without being just a few tweaks on the later designs.

Why did you slowly introduce new playable characters?
We had a few common tactics that we have built upon over the years at BioWare. We learned that players didn't deal well with being presented with too many choices, and that choices in playable characters caused particular consternation so we preferred to slowly introduce characters and also give them a logical reason for being. We also made sure it was clear that each character had personal stories to explore so players had motivation to play them.

What was the biggest technical challenge you faced?
On the Xbox version we were extremely aggressive in the streaming of content in real-time over the disc drive. We discovered that the game ran smoothly on some Xbox consoles, and not on others. When we inquired about it Microsoft reluctantly admitted there were many different drives used in Xbox consoles along with different performance profiles, so it was clear we were pushing the data streaming past a safe limit. That was a harsh one to learn a couple months before release... It would have been nice if Microsoft was up-front about that variability!

Why do you think *KOTOR* remains so well regarded by RPG fans?
I'd say *KOTOR* was a hit for a variety of reasons. Technically it was right at the forefront of games, and a big advance over what we did previously and what other folks were doing at the time. The RPG systems were solid, and had a nice balance of customization and flexibility. These elements were important, but it was the story and experience of being at the core of a *Star Wars* adventure that made the game special. We made the player feel unique and core to the world, especially at the big twist, but also as though he or she was experiencing a *Star Wars* movie from the inside.



GOOOOOOOAL!

51 Sensible Soccer

Turn to page 136 for our making of feature on Sensible Soccer

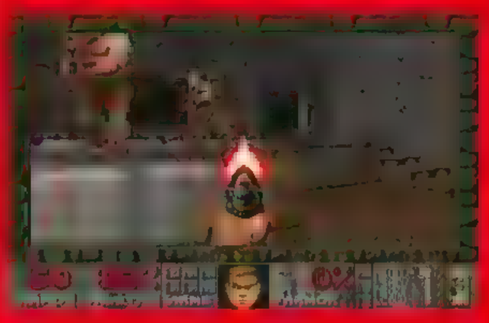
■ Year: 1992 ■ Platform: Various

If you loved football in the Nineties, you're likely to remember some very distinctive oddities: ludicrous banana shots, vowel-switched players like 'Peul Gescoigne' and a match-up screen which mysteriously featured the same two players no matter which countries were playing. Yes, *Sensible Soccer* was a little bit odd, but by pulling back the viewpoint and making passing more intuitive, it captured the hearts of a public previously enthralled by the likes of *Kick Off 2*.

50 Doom II

Year: 1994 Platform: PC

Doom II is a sequel that plays it straight, delivering bigger levels, better multiplayer, more monsters and a Super Shotgun for good measure. Given how good *Doom* was, that's no bad thing – everyone else was still catching up, after all.



49 Deus Ex

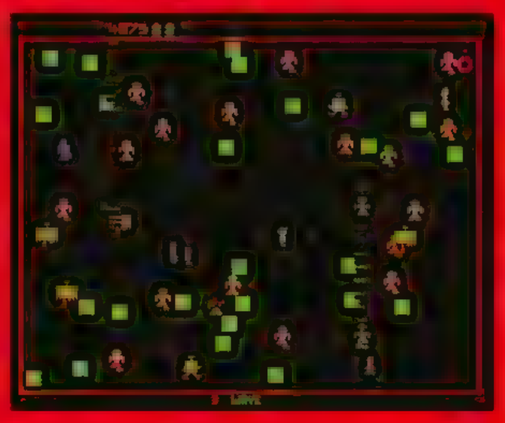
Year: 2000 Platform: Various

At the turn of the century, Ion Storm's classic was at the forefront of PC gaming thanks to an incredible blend of RPG and first-person shooting gameplay. Two sequels have come along, but neither has had the lasting impact of the original.

48 Robotron 2084

Year: 1982 Platform: Arcade

How many Xbox Live Arcade games pinched their twin-stick controls from *Robotron*? Quite a few, but with good reason – Eugene Jarvis and Larry DeMar created one of the finest twitch shoot-'em-up experiences known to mankind.



JON STOODLEY THE PERFECT PLAYER

47 Pac-Man

Year: 1980 Platform: Arcade

Turn to page 50 for our full making of feature on Pac-Man

When did *Pac-Man* first get your attention?

I was a devoted *Berzerk* player in my local arcade, Las Vegas in Liverpool. It was early-1981 when it had a delivery whilst I was playing, and two huge machines were wheeled onto the arcade floor. They were twin screen *Pac-Man* cabs and everyone looked in amazement, including me! It wasn't until later on that year that I would accompany my brother Peter (who by then was a 100k player) to a game of 'doubles' and it just clicked. Within a few weeks I had a six-figure score.

What is it about *Pac-Man* that makes it such a great game?

Without doubt its diversity. It seems to appeal to absolutely everyone, regardless of age or sex. Even if you don't particularly score big at *Pac-Man*, the game play is both very addictive and full of character. He was, after all, the first real character in a videogame and instead of just being a 'ship' in a shoot-'em-up, you were a virtual *Pac-Man* being hunted by ghosts. I guess he also responsible for spawning the phrase, 'I'm on my last man.'

Why do you think *Pac-Man* is so popular with high scorers?

I think the 'split-screen' and the 'perfect game' of *Pac-Man* will always be a huge draw for high score interest. The myth of the split-screen and unlike more commonly known 'kill screens', *Pac-Man* allows you to play your lives out. Perfect *Pac-Man* sometimes takes in excess of six hours. Never losing a life, never missing a blue ghost or bonus and never making a mistake makes the achievement of 'perfect *Pac-Man*' unique in classic gaming. It's a fantastically simple game on the surface, but underneath that surface it's incredibly tough with many layers of gameplay.

What's your favourite aspect of *Pac-Man*'s game mechanics?

I'm amazed at what the designers did with such little memory (in modern terms). *Pac-Man* has great AI and although the ghosts are not completely random in their movements, they did a great job, though. I play freehand for the first 20 boards and manipulate the ghosts to do what I want. Thing is, even the best players get caught out by an occasional and completely random movement which amazes me even today. Ghosts in the machine...

46 Lemmings

■ Year: 1991 ■ Platform: Various

Mike Dailly is over the moon that *Lemmings* made your list: "It's great that many gamers love *Lemmings*. I'd love Sony to do more with them. We believe the characters could be used in more than the current style, they're full of character and are ripe for different genres."

45 Speedball 2: Brutal Deluxe

■ Year: 1990 ■ Platform: Various

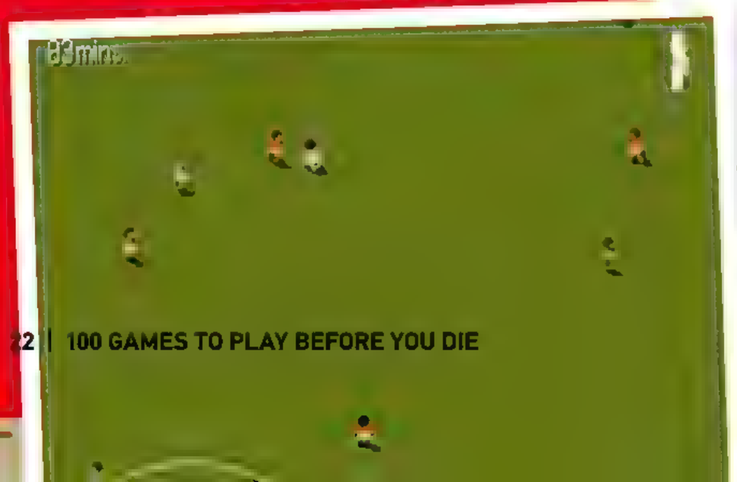
It was hard not to be excited by *Speedball 2*. Like the best sequels it drastically improved on the mechanics of the previous game, but in this case it came at a high price. Let's bow our heads and take a brief moment to remember all the joysticks that fell to The Bitmap Brothers' gruelling futuristic sports game...

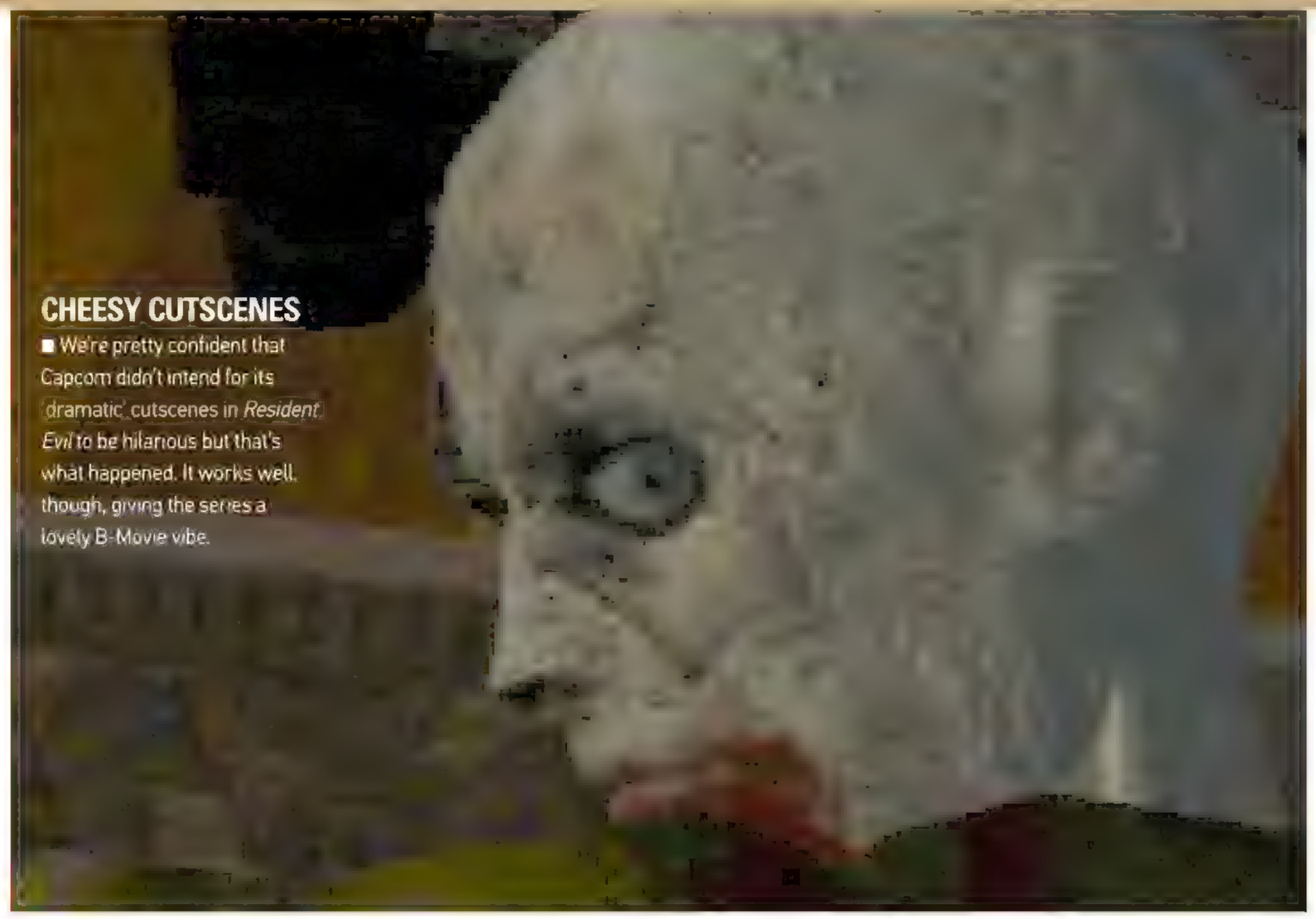
Turn to page 94 for our making of feature on Speedball 2

44 JON HARE ON SENSIBLE WORLD OF SOCCER

■ Year: 1994 ■ Platform: Various

I am delighted to see *SWOS* placed so highly, considering how many great games have been made over the years. My intention with *SWOS* was to make a kind of computerised version of *Subbuteo* with the whole world of football at your fingertips and always someone there to play it with you, the computer if not your friends. The fact that it was inaugurated by Stanford University as one of the ten most influential games of all time is my greatest achievement to date and that people still love and play *SWOS* today, over 20 years later, is amazing.





CHEESY CUTSCENES

■ We're pretty confident that Capcom didn't intend for its 'dramatic' cutscenes in *Resident Evil* to be hilarious but that's what happened. It works well, though, giving the series a lovely B-Movie vibe.

HOW CAPCOM REINVENTED THE SURVIVAL HORROR GENRE

43 Resident Evil

■ Year: 1996 ■ Platform: PSone

CINEMATIC TRICKS

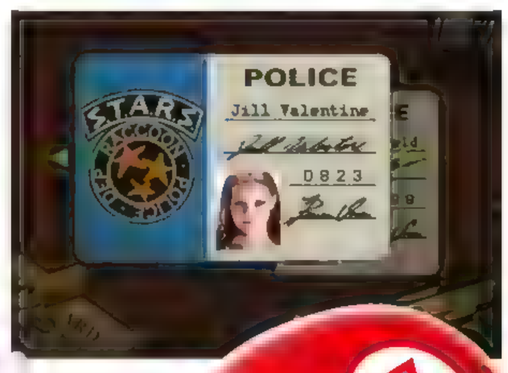
■ Capcom made *Resident Evil* feel like a film by borrowing all sorts of useful tropes from the movies, including smart panning shots, seeing your character from the monster's view and, of course, traditional jump scares.

ITEM STORAGE

■ It infuriated many, but item storage became a crucial part of making it out of Spencer Mansion alive. You'd need to constantly juggle resources and have a good memory to ensure you always had what you needed.

MULTIPLE CHARACTERS

■ Unlike early survival horror games, *Resident Evil* gave you the choice of playing two characters, Jill Valentine and Chris Redfield. Both campaigns are notably different too, meaning plenty of replay value.



IT'S ALL ABOUT THE GRAVITY

42 Super Mario Galaxy

■ Year: 2007 ■ Platform: Wii

Nintendo is amazing at making things feel new. When Mario first ran through World 1-1 of *Super Mario Bros.* it was fresh and exciting. Nintendo achieved the same effect when you first saw Mario appear in *Super Mario 64* and it pulled off the same trick yet again with *Super Mario Galaxy*. The first time you run around a planet and start leaping around while you're upside down is the moment you realise that Mario is the master of the platform genre. It's no surprise that so many of his games have gone on to appear in your final list.

KAZUMA KUJO ON CREATING ONE OF THE ARCADE'S MOST ICONIC SHOOTERS

41 R-Type • Year: 1987 • Platform: Arcade

How did *R-Type*'s distinctive design originate?
We thought it would be hard to invoke a big scale atmosphere with a biological expression. This is why we settled on the biomechanical design. I also think by implanting machines into living things, the game became interesting.

Where did the inspiration for the bosses come from?
With regard to the design of Dobkeratops, the original model was actually one that our lead designer had since joining Irem, and was used without any changes. With the bosses we made a lot of effort to create unique characters – something that nobody had ever conceived, attacked or seen before.

What can you tell us about the iconic Stage 3 boss?
The ship was originally intended to be the final boss, and was designed as the 'moving base' of Bydo. We were keen to have players destroy the surface of this giant ship but at the same time we also wanted all players to enjoy this unique character, so the decision was made to bring it forward to Stage 3. I think Stage 5's boss, Bellmate, is the most interesting. It appears with so many masses of cells around it, which fly toward the player's ship one after another, and its attack pattern is unique. The player has to charge their shot to destroy it, and I also like the rhythm of its attack.

How did you balance *R-Type*?
Because the game was originally developed for the arcade, we made the balance of the difficulty considering the players' achievement – based on how far somebody could get on a single credit [100 yen]. We also paid close attention to the changes that occur between each stage. The colours and themes change rapidly rather than gradually.

Tell us about the R-9 Fighter's design.
In the beginning we considered a robot that could transform into a combat plane, but as the game developed, this idea gradually changed into the 'Force' and disappeared. At the early stage of the R-9's planning, we wanted the ship to shoot up and down as well as front to back. Initially, the ship could turn around and shoot backwards as it transformed into the robot, but the concept didn't work very well. It was then we realised that we could solve the problem using the 'Force'.

What was the 'Force' inspired by?
The 'Force' was inspired by the ball-rolling Dung Beetle. Initially, it could be added to the top and underbelly of the ship – not just back and front, but we found the concept difficult to use, so we removed it. We were seeing so many shoot-'em-ups appearing from other publishers, we wanted to incorporate a unique power-up system into our game. We spent a lot of time refining the specifications of the ship and the look of the enemies at the beginning of the game.

Why do you think *R-Type* remains so popular?
Some of the functions must've felt fresh. The control over the 'Force', might look difficult but it becomes interesting once you get used to using it. Maybe the fun of learning the formation of the attacks, the game's setting, creature designs, and so on helped. I think the reason why this game is appealing is because its uniqueness never gets old.

HOW TO DEMOLISH R-TYPE'S FIRST BOSS

1 Ignore the eyes, as they are nothing but a cheap distraction.

2 Focus all your firepower on the stomach and watch out for the small alien.

3 Detatch the 'Force' so it rests in the stomach for maximum damage.

4 If you take too long it'll move towards you. Resist the urge to panic and concentrate on that head.

5 Sigh with relief.

MARIO'S DEVELOPERS ON CREATING WORLD 1-1

40 Super Mario Bros.

■ [illegible] ■ Platform: NES

[illegible]

Takashi Tezuka:

Takashi Tezuka: [illegible]

Shigeru Miyamoto: [illegible]

THE HARD FACTS OF (HALF)LIFE

39 Half-Life

■ Year: 1998 ■ Platform: PC

■ Its opening intro of Gordon heading to work has been copied by countless other games.

■ It's one of the first first-person shooters to tell its story through scripted sequences.

■ Unlike other examples of the genre it throws in a surprising amount of puzzles for Gordon to tackle.

■ Characters will continually help Gordon on his quest, adding to *Half-Life*'s atmospheric world.

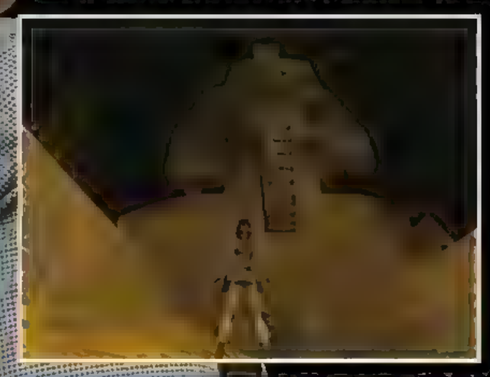
■ While Gordon can utilise numerous weapons, his reliance on a humble crowbar separates *Half-Life* from its peers.

SHOOT THE CORE

38 Tomb Raider

■ Year: 1996 ■ Platform: Various

Everything seemed aligned for the birth of Lara Croft. 3D gaming was an exciting new medium that developers were experimenting with, while media from all corners focused on *Tomb Raider*'s leading lady. While Core Design is no longer with us, the legacy it left with *Tomb Raider* is unquestionable. Lara's first adventure not only helped redefine the adventure genre, but also began a series of games that has spanned two decades. It's telling that even with the high acclaim that the reboots have received in recent years it's Lara's original quest that makes it into your final list.



THREE STEPS TO RPG HEAVEN

37 Final Fantasy VI

■ Year: 1994 ■ Platform: SNES

KEFKA

■ *Final Fantasy* games had always had villains, but none were quite as memorable as the cackling, almost-comical bad guy Kefka.

A CHANGING WORLD

■ Halfway through the game is a dramatic scene that alters the layout of the world and acted as a powerful moment for the story, a facet that has since remained a series staple.

DEEP CUSTOMISATION

■ One of the things fans love about *Final Fantasy* is its varied RPG systems, an element that *FFVI* displays beautifully with its highly customisable Magicite system.

179th The Legend Of Zelda: Twilight Princess
405th The Legend Of Zelda: Oracle Of Seasons
391th The Legend Of Zelda: A Link Between Worlds
483th Zelda II: The Adventure Of Link
888th The Legend Of Zelda: Skyward Sword

HOW LINK WENT FROM ZERO TO HYRULE HERO

36 The Legend Of Zelda: The Wind Waker

■ Year: 2003 ■ Platform: GameCube

A CHEEKY CHAP

■ There's something about this youthful and cartoonish Link that just makes him all that more charming to play as. He's got a bit more of a naughtiness about him that you never really felt in the more mature *Zelda* games, perhaps making a bit more sense for him to destroy everyone's vases.

HAVE SOME FUN!

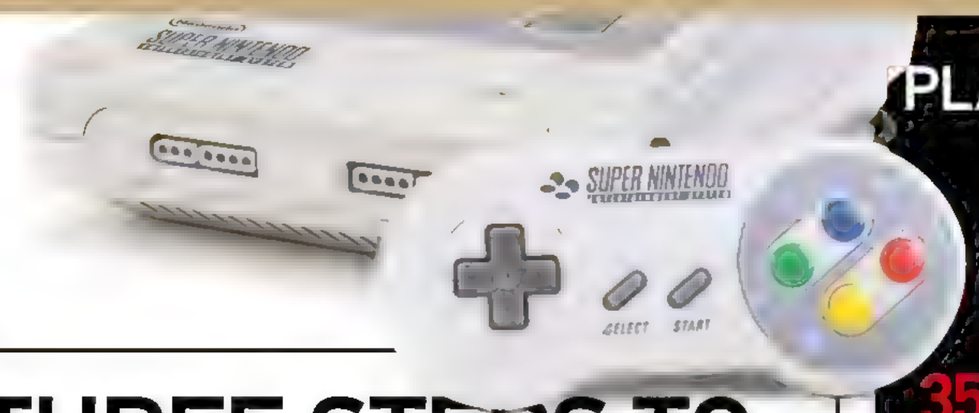
■ As great as *Ocarina Of Time* and *Majora's Mask* are, they're just a tad too serious at times. *Wind Waker*, by comparison, was a much more jovial experience with talking boats, friendly pirates and a more comfortable setting for comical – and, frankly, bizzare – character Tingle.

WELCOME TO GAMECUBE

■ For many the, cel-shaded adventures of *Wind Waker* helped signal just what the GameCube was about. While the industry was onward towards a permanent, grit-infused shade of brown, *Wind Waker* proved there could still be fun in the industry.

AGELESS ORIGINALITY

■ This aesthetic hadn't been popularised at this point, but more than anything it's helped make *Wind Waker* one of the few games of the era to withstand the test of time. It means its originality can still shine through, even if you were to play it today.



PLAY BEFORE YOU DIE

35 Monkey Island 2: LeChuck's Revenge

■ Year: 1991 ■ Platform: Various

It takes skill to approach a sequel to one of the greatest adventures of all time *and* improve upon it, but with smoother interactions, greater production values and an even more humorous storyline *LeChuck's Revenge* managed just that.

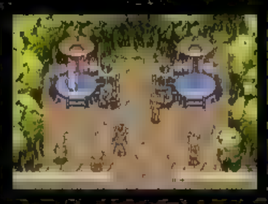
34 Bubble Bobble

■ Year: 1986 ■ Platform: Arcade

Bubble Bobble's inclusion of a brilliant co-op mode is likely to be the reason why so many remember it so fondly. The game itself was utterly replayable – not least thanks to its multiple endings.

33 Chrono Trigger

■ Year: 1995 ■ Platform: SNES



Riding the wave of *Final Fantasy* is one thing, but Square felt it needed to prove its status as king of RPGs. A fascinating, storyline, a unique combat system and a brilliant cast made *Chrono Trigger* truly stand out.

32 Resident Evil 2

■ Year: 1998 ■ Platform: PSone

While it might not be quite as breakthrough as the original, *Resi 2* took what made its predecessor so well-loved and improved on it. It's perhaps the perfect *Resi* experience, thanks to its amazing atmosphere and characters.

31 Grand Theft Auto V

■ Year: 2013 ■ Platform: Various

While *GTA V* might not be as groundbreaking as *GTA III*, a vast world with an original three-character story makes it the definitive modern-day Rockstar game.

MATTHEW SMITH'S GREATEST ACHIEVEMENT

30 Manic Miner ▪ Year: 1983 ▪ Platform: ZX Spectrum

Turn to page 62 for our full making of feature on Manic Miner

Retro Gamer received flak in the past for going overboard with its coverage of the *Miner Willy* games. That criticism was probably warranted in the early issues, but as the latest survey results show, the games *are* hugely popular with readers. *Manic Miner* is the highest-charting Spectrum original, and is the third-placed 8-bit computer game overall behind *Elite* and *Tetris*. And, being released in 1983, it also happens to be the oldest game in the top 30.

It's not hard to see why the game retains its appeal after all these years. The initial impact was impressive at the time – imaginative and colourful sprites, in-game music and sound effects (on the Spectrum, no less) – but it's the perfect platforming challenge that has elevated the game to classic status. Many of its 20 caverns are exceptionally well-designed, and the game rewards dedicated players by saving the very best screens until late in the game. If you're one of those intrepid souls who's made it through to the final cavern and grabbed the cryptic items at the end then you'll know that the game's reputation is fully deserved. *Manic Miner* is Matthew Smith's masterwork and will always be one the greatest games of the 8-bit era.

» Certain screens were inspired by the popular arcade games Matt enjoyed at the time.

DERRICK ROWSON

Coder of Manic Miner and Jet Set Willy for the Amstrad CPC (with Steve Wetherill)

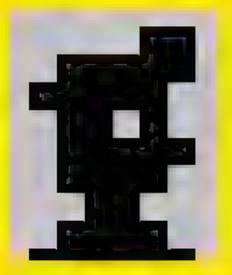
Manic Miner feels more complete than *Jet Set Willy*. You do a task and then progress. *Jet Set Willy* on the other hand allows several tasks to be bypassed and other routes to be taken. If I then attempt the missed task, and lose my lives, I feel it was a wasted journey. *Manic Miner* seems to teach skill as each level is passed. The more it is played the easier it becomes. *Jet Set Willy* somehow does not feel this way.

[illegible] code is sometimes not all that helpful. Matthew could code as the normal person talked. He used to challenge people to write code quicker than he did. I [illegible] something then just write the code. No flowcharts, no bit-by-bit writing to test [illegible]

Central

CHRIS LANCASTER

Coder of Manic Miner for the Commodore 64



Software Projects got in touch and discussed the possibility of me writing the C64 version of *Manic Miner*. I was in the Royal Air Force at the time, so any software development had to be done in my spare time, but Alan Maton was happy with that and bought me a Spectrum so I could see how *Manic Miner* played. Five and a half weeks of sleepless nights later and the C64 version was ready, just in time to get it into the shops for when they opened after Christmas.

To me, the simple gameplay of *Manic Miner* was the key to its success. It's a game that takes seconds to learn the controls to play it, but can provide hours of amusement. Programmatically, the basic game is not very complex, but Matthew did a really good job of getting half decent sound out of a Spectrum. The graphics were original and I particularly liked the large head of Eugene.

» The Warehouse, with its unstable floors, was one of the trickiest rooms in the game.

ROY COATES

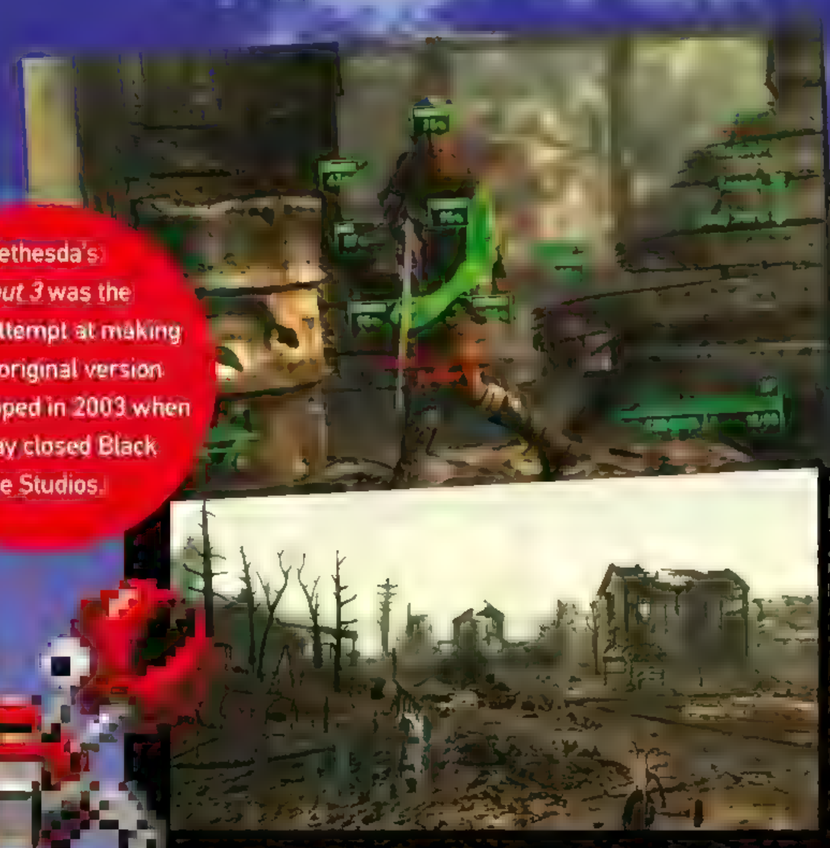
Coder of Manic Miner and Jet Set Willy for the Dragon 32/64

Alan Maton from Software Projects showed me a Spectrum running *Manic Miner*. This was the first time I'd ever seen the game. He said, "We want you to write that – for the Dragon." The game looked so simple, I was sure that I could knock it out in a very short time. I was wrong. Three months of hard graft later it was done.

There's a certain something about *Manic Miner*. It seems to be both mysterious and familiar at the same time. Although we looked at every game we could get our hands on back then, none had the same charisma that *Manic Miner* had. I still love it today.

I did add some extra screens for my own amusement. I'd forgotten all about it until after the launch when Software Projects called me and gave me a good ticking-off for not telling them. They were pleased, of course, since it generated more publicity. It also allowed Dragon owners to gloat to their Spectrum-owning pals. For once, the Dragon had more.

Cavern



Bethesda's *Fallout 3* was the second attempt at making it – the original version was scrapped in 2003 when Interplay closed Black Isle Studios.

HOW WAR CHANGED

29 Fallout 3

- Year: 2008
- Platform: Various

- Full-3D environments gave a vastly heightened sense of immersion, drawing players into the Capital Wasteland.
- High-profile voice acting from the likes of Liam Neeson, Ron Perlman and Malcolm McDowell lent the game a big-budget feel.
- A renewed focus on the story and the downplaying of self-referential humour kept the fourth wall firmly intact, in contrast to its predecessors.
- Bringing the game to consoles took the series from cult hit to mainstream success, bringing millions of additional players into the fold.
- Not everyone was thrilled with it – the game attracted controversy in Australia, India and Japan due to its themes and content.

THE SPEEDSTER'S MANY SECRETS

28 Sonic The Hedgehog

- [illegible]
- [illegible]

When *Sonic The Hedgehog* hit the Mega Drive, it looked and sounded like nothing else around – pop composer Masato Nakamura composed a catchy soundtrack and the graphics weren't just well-drawn, they shifted about at an incredible pace. Or at least, they could. Sonic was never just about speed, and some excellent level design challenged players to perform precision platforming as well the odd daredevil stunt. Coupled with an appealing hero, the game had all the tools to take the world by storm and did exactly that, transforming the Mega Drive from a worthy competitor into a mass-market success.

Sega Of America initially rejected *Sonic*
Despite having been designed to appeal to the West, Sega Of America initially branded *Sonic* as a complete disaster – in fact, it was so convinced that the project was unsalvageable that it contacted a designer to create a replacement character.

It nearly ended up on home computers
Sonic's exclusivity was a key selling point for Sega consoles, but it nearly wasn't exclusive. US Gold announced that it had acquired the rights to convert *Sonic* to the C64, Spectrum, Amstrad CPC, Atari ST and Amiga, with news stories appearing in ACE and *C&VG*.

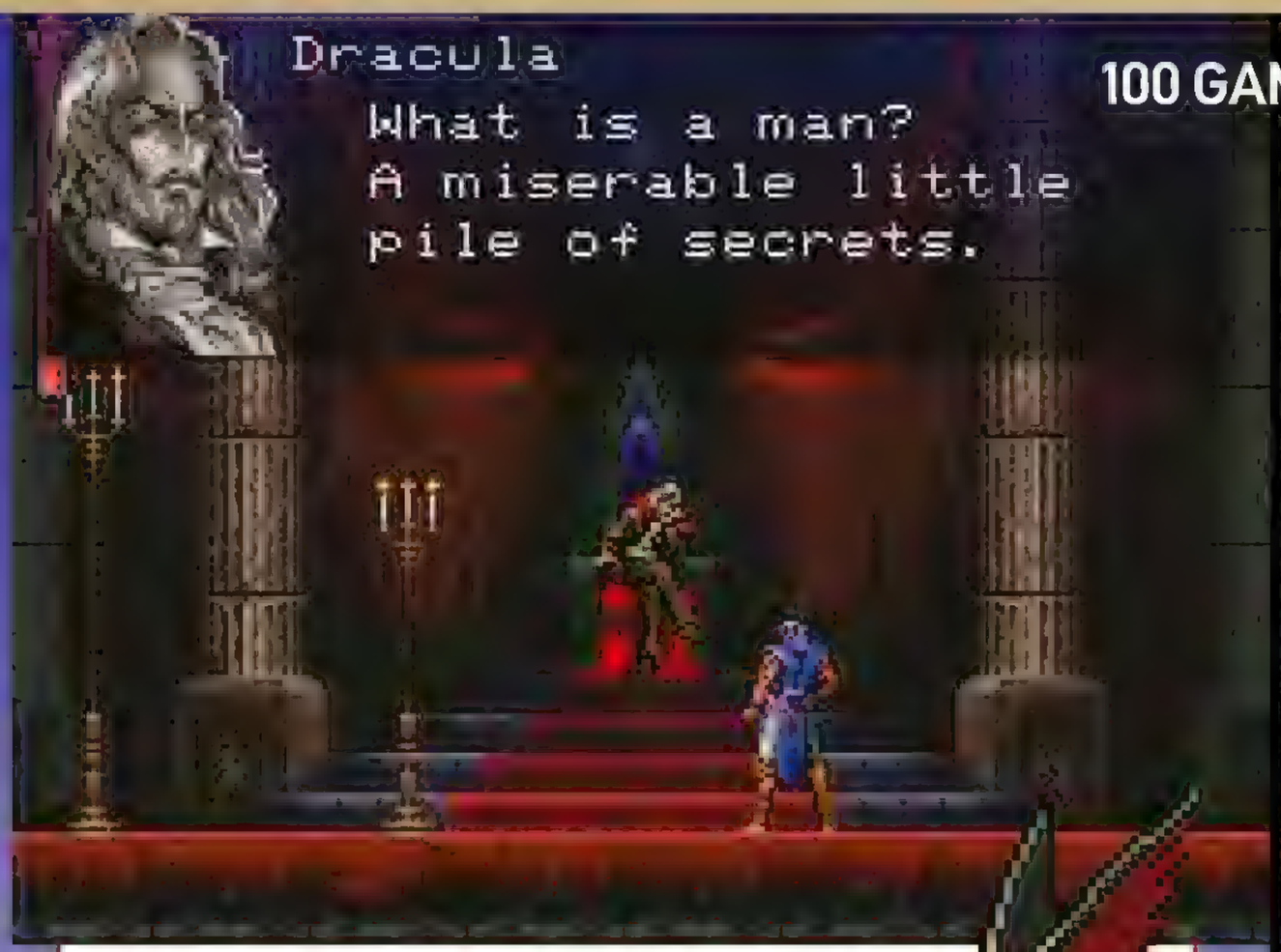
Turn to page 114 for our making of feature on Sonic The Hedgehog

Sonic didn't originally fight robots
Early concepts featured Sonic fighting a more traditional-looking bunch of monsters. He also had a girlfriend named Madonna, but the damsel in distress concept was dropped pretty early on to differentiate the game from Mario and Princess Peach.

The 'real' credits are hidden in the game
The Team had to use pseudonyms, but there's a hidden screen with the team's real names. To see it, play the game on a Japanese Mega Drive and press C, C, C, C, C, C, Up, Down, Down, Down, Left, Right on the title screen. When the demo starts, hold A, B, C, and Down.

Robotnik's wrecking ball got around
It's well-known that the wrecking ball Robotnik uses in Green Hill Zone was originally a free-rolling hazard that could be pushed and even ridden, but there was also an unused swinging variant, which could take the place of the more beneficial swinging platforms and the code still exists.

Sonic used to be in a band
Sonic was the vocalist of this group, and he was joined by a rabbit a chicken and a crocodile. They were originally set to feature on the game's sound test screen, but were cut for time reasons – the free space was filled up with the iconic Sega sound effect instead.



IGA ON HIS EPIC SYMPHONY

27 Castlevania: Symphony Of The Night

■ Year: 1997 ■ Platform: PSone

On *Symphony Of The Night*'s appeal
I wanted to change the impression that *Castlevania* was this difficult-to-access action game. When we decided to adopt RPG elements, we agreed that users should receive something good when beating enemies. So I thought of adding XP to the game. I thought that even the users who were not good at playing this type of action game would be able to clear *Symphony Of The Night* if I adopted this particular system.

On creating Alucard
I decided to choose a character that had a special link to the previous *Castlevania* titles. Personally, I liked Alucard very much and it was totally fine with me, but I presumed that those who had been fans for a long time would be angry with our decision since it was the first time the series ever had a non-whip-using character as a hero. Alucard was just a really cool hero, and that is why I think *Symphony Of The Night* has been received so favourably by the fans.

On Symphony's music
The music direction has never led the creation of the game. I have always asked Michiru [Yamane] to compose music in accordance with the actual game and never the other way around. She co-ordinated with the team and composed music from the image of the stages.

On his favourite tune
My favourite is *Castle Dracula* which starts to play when Alucard enters the castle for the first time. I was impressed with the way the music starts to play once Alucard enters the castle, and then suddenly the castle gets bright and zombies start to appear. It might be because that part was programmed by myself.

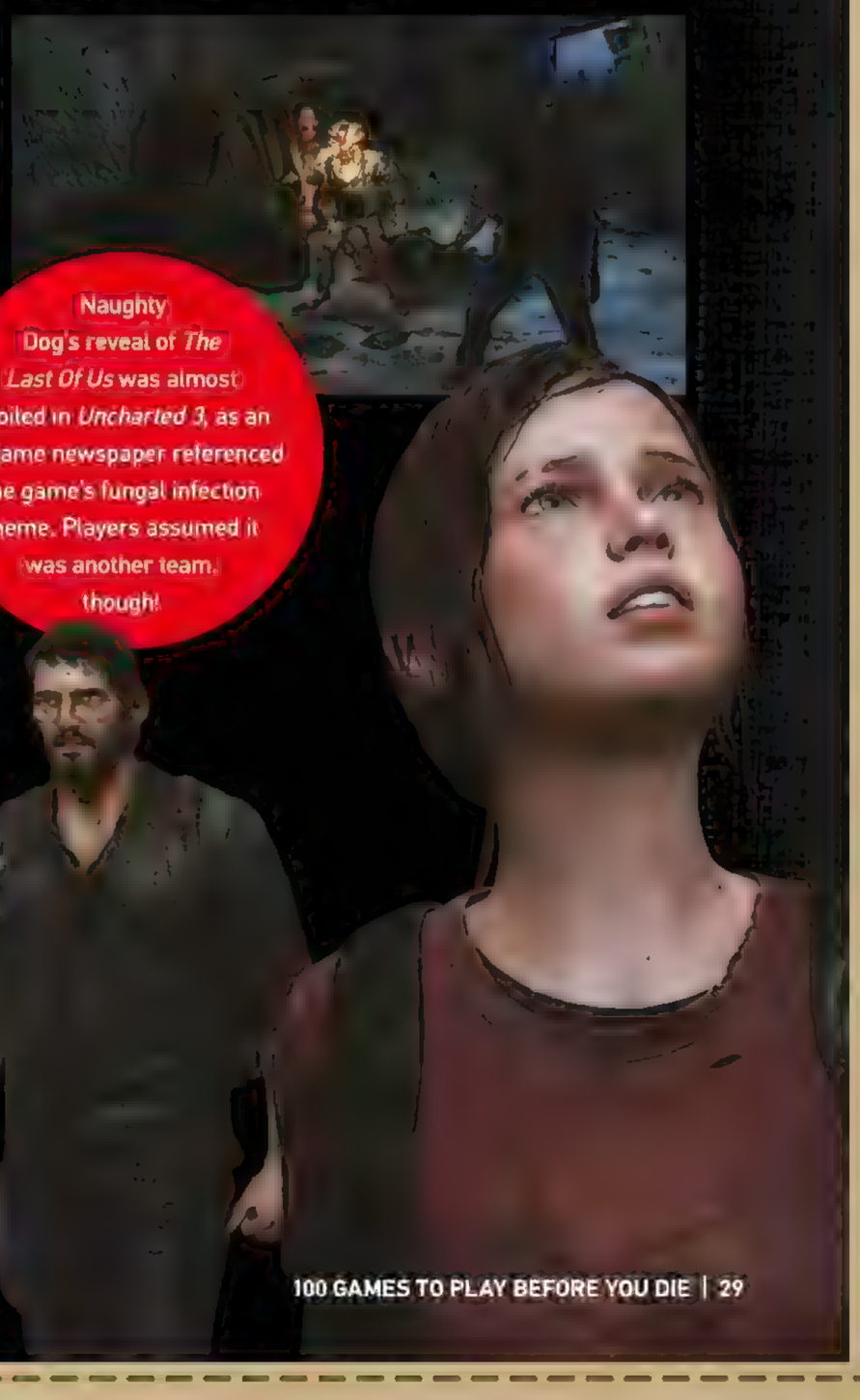
NAUGHTY DOG GET REAL

26 The Last Of Us

■ Year: 2013 ■ Platform: PS3

Can you talk about why you decided to chose the over-the-shoulder perspective, and how it plays into interactive storytelling?
Ricky Cambier (lead designer): Ok, so to talk about camera for a second – the difference between *The Last Of Us* camera versus the Uncharted camera is basically... well, in the Uncharted camera you're further back, you can see all of Nate. In *The Last Of Us*, though, you're *tight*, the camera is brought way in on Joel. You are up close, there's the sense that there's danger all around you. It's intimate. Dangerous. You know, every bullet *counts*.

***The Last Of Us* is noticeably devoid of unnatural exposition dumps and unrealistic dialogue. How do you avoid these common shortcomings?**
Josh Scherr (writer): It's important, for us, to have a compelling narrative that's delivered in a believable way. The characters have to come first. As long as you create compelling characters that have a convincing arc to the story, everything else can follow alongside that: gameplay, design and so on.



Naughty Dog's reveal of *The Last Of Us* was almost spoiled in *Uncharted 3*, as an in-game newspaper referenced the game's fungal infection theme. Players assumed it was another team, though!

THE POP CULTURE REFERENCES THAT DEFINED ROCKSTAR'S CLASSIC GAME

25 Grand Theft Auto: Vice City

■ Year: 2002 ■ Platform: Various

Vice City first made your list 11 years ago when it was still a contemporary game. Despite having only been on sale for two years, it appeared in your original top 20, proving that Rockstar's decision to set the game during the Eighties was a canny one that would resonate with a large number of gamers.

Of course, even without its Eighties nostalgia, *Vice City* would still be an entertaining game thanks to its interesting lead character, solid and varied missions and numerous subtle tweaks to the gameplay that had made *GTA III* so entertaining to play. 11 years on and the passion for it still burns stongly.

SCARFACE

■ The similarities between Tommy Vercetti and Tony Montana are many. They both rise to power using insane amounts of violence and have similar-looking mansions.

RESERVOIR DOGS

■ The most obvious connection is that Tommy Vercetti looks remarkably similar to Michael Madsen's Mr Blonde.

THE GODFATHER

■ There are obvious parallels between Sonny Forelli and Santino 'Sonny' Corleone. In addition to having the same name, they both have the same mean temper and want to muscle in on the drug trade.

CARLITO'S WAY

■ Ken Rosenberg not only looks incredibly similar to David Kleinfield in *Carlito's Way*, but also has the same cocaine addiction and becomes increasingly incoherent and paranoid as the game continues.

SMOKEY AND THE BANDIT

■ Burt Reynold's character is very similar to the role he plays in the famous film and The Bandit itself also features in the game.

MIAMI VICE

■ Lots of references to the classic TV show. *Crockett's Theme* plays, Philip Michael Thomas plays Lance Vance and the titles are similar.

WHY THE SILENT CARTOGRAPHER IS AMAZING

Turn to page 194 for our making of feature on Halo: Combat Evolved

24 Halo: Combat Evolved

■ Year: 2001 ■ Platform: Xbox

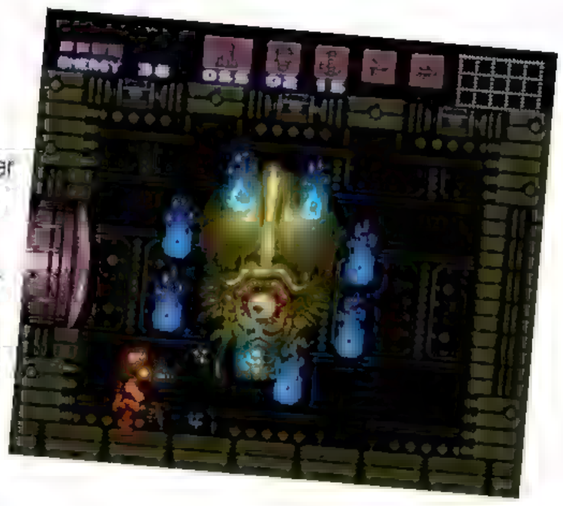
Bungie's game already impressed with its intelligent story, satisfying gunplay and detailed textures, but The Silent Cartographer took things to a whole new level. It starts off brilliantly with Master Chief receiving instructions as his ship passes over a frantic battle. Later you're in the thick of that very same fight, tackling Elites, watching the soldiers you just landed with fall, and doing your very best to get off that damned beach. It's a brilliant opening that only gets more intriguing as you dig into the Covenent base.

YOSHIO SAKAMOTO ON EXPLORATION

23 Super Metroid

■ Year: 1994 ■ Platform: SNES

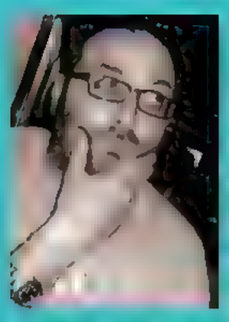
We really didn't want to explain things to the player using too many words. We wanted to let them play and work things out for themselves. For example, say there's a mechanism where you need to climb up a ladder and place a bomb there in order to advance, as one component in the solution of a [gameplay] riddle; if that was all you needed to do in order to get through to the next area, you'd miss all of the other mechanisms we'd put in place and wouldn't even realise that certain parts of the game existed. We wanted players to explore everything we'd made. That's why we designed the maps in a way that the player couldn't escape without exploration, or in such a way that the player would end up back at a starting point before advancing. The player would be cornered/driven and would be forced to stop and say, 'Right, how should I think about this area?' That's the essential point of the map design. The player had to 'feel' their way through the game. We wanted the player to feel that they had made that discovery independently.



STEVE LYCETT FEELS THE WIND IN HIS HAIR!

22 Out Run

■ Year: 1986 ■ Platform: Various



What's your first memory of *Out Run*?

made its whole world feel more real. It wasn't a racing game either, it was a

What's your favourite music track from the game and why?

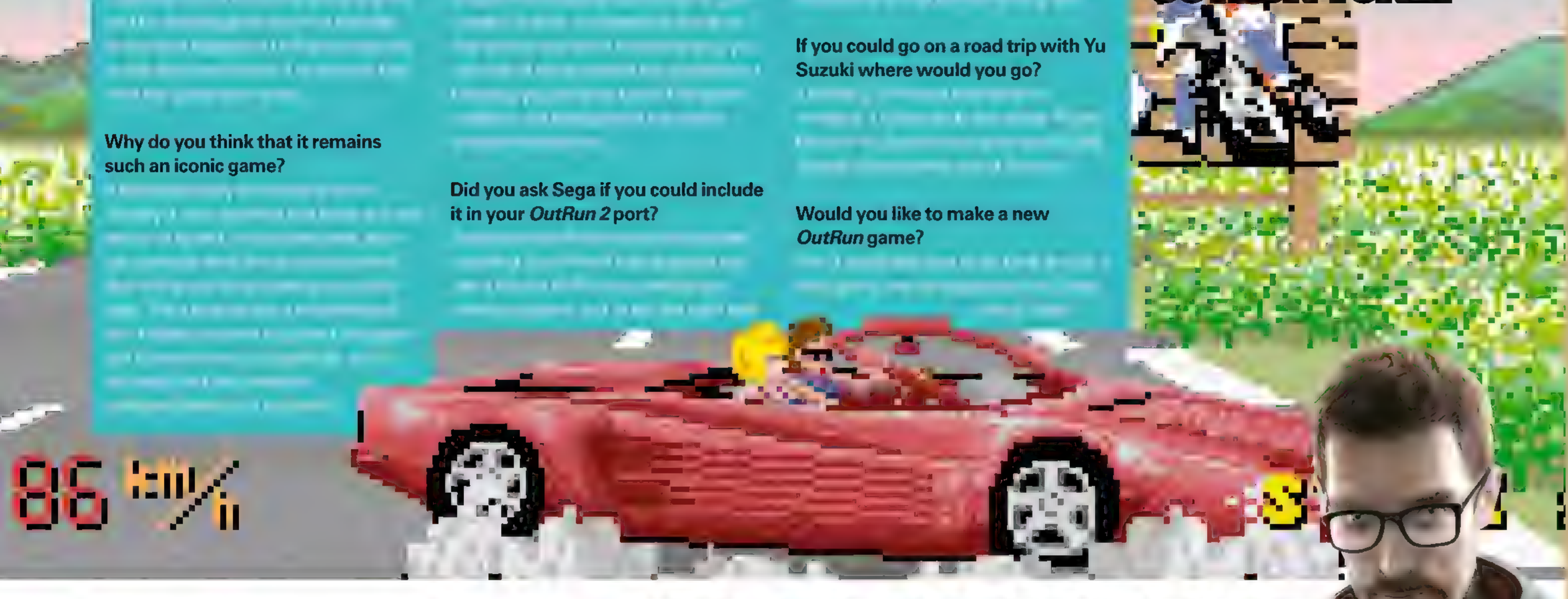
What mechanics does it share with OutRun Coast 2 Coast?

Why do you think that it remains such an iconic game?

Did you ask Sega if you could include it in your *OutRun 2* port?

If you could go on a road trip with Yu Suzuki where would you go?

Would you like to make a new *OutRun* game?



AN EPIC SPACE ADVENTURE

Turn to page 80 where we talk to Elite cocreator David Braben

21 Elite

■ Year: 1984 ■ Platform: Various

There's still a lot of love out there for the epic space combat and trading of *Elite* – it's an impressive performer, as only two Eighties titles and just one UK-developed game rank higher than Braben and Bells classic. However, the game was at the very top of **Retro Gamer**'s 2004 top 100 list, and narrowly missed the top 20 this time around. Why has it slid down the rankings? We have put it down to shifting demographics, particularly when it comes to our international audience and the influx of Nineties kids.

GORDON'S ALIVE!

20 Half-Life 2

■ Year: 2004 ■ Platform: Various

5 YEARS The game's development time

96 The game's score on Metacritic

12 MILLION+ Number of copies sold

EVERYONE The people blown away by the Gravity Gun

$40 MILLION The game's budget

YOU FIGHT LIKEA DAIRY FARMER!

HOW APPROPRIATE! YOU FIGHT LIKE A COW!

SOON YOU'LL BE WEARING MY SWORD LIKE A SHISH KEBAB!

FIRST YOU BETTER STOP WAVING IT ABOUT LIKE A FEATHER DUSTER.

THERE ARE NO WORDS FOR HOW DISGUSTING YOU ARE.

YES THERE ARE. YOU JUST NEVER LEARNED THEM.

Turn to page 100 for our The Secret Of Monkey Island feature

TALK TO... RON GILBERT

19 The Secret of Monkey Island

■ Year: 1990 ■ Platform: Various

So what made you want to make an adventure game about pirates?

At the time fantasy adventures, such as *King's Quest*, were very popular, but because I've never been much of a fantasy fan myself. I wanted to do something different, something more based on reality. Although the pirates in *Monkey Island* aren't really the slimy 17th century bandits of the high seas that they were, they're more a mix of swashbuckling Errol Flynn movies and the Disneyland Pirates Of The Caribbean theme park ride. That was one of my favourite rides at Disneyland as a kid, getting on that little boat and being taken on your own pirate adventure, but I always also wanted to get off the boat and wander around those big pirate ships and interact with the characters. But, to me, making *Monkey Island* wasn't actually about making a realistic pirate game, it was about making a game that played on all the clichés of movies such as *Treasure Island* and *Captain Blood*.

One of the things that made the games great were the memorable characters like the bumbling Guybrush Threepwood, the undead pirate LeChuck, Governor Marley, and, our favourite, Stan the Used-Ship Salesman. Was it fun fleshing these characters out for players?

Well, at the time, a lot of computer game characters were like cardboard cut-outs that spoke in weird half-sentences because they were just doling out information to you as the player. We wanted characters that you could get to know and understand, and that's just down to good writing. Where Stan came from was that during the [production of the] first *Monkey Island* I bought a car. And I remember going to the car dealer and he wouldn't let me leave!

How did the idea for insult sword-fighting originate?

I watched lots of old pirate movies for the first *Monkey Island*, and one thing that stood out was that while they were fighting they always taunted each other with insults. I knew we needed sword-fighting in a game about pirates but because I didn't want to introduce any action gameplay the old movies provided the perfect solution.

NOBODY'S EVER DRAWN BLOOD FROM ME AND NOBODY EVER WILL.

YOU RUN THAT FAST?

ONLY ONCE HAVE I MET SUCH A COWARD!

HE MUST HAVE TAUGHT YOU EVERYTHING YOU KNOW.

I GOT THIS SCAR ON MY FACE DURING A MIGHTYSTRUGGLE!

I HOPE NOW YOU'VE LEARNED TO STOP PICKING YOUR NOSE.

YOU ARE A PAIN IN THE BACKSIDE, SIR!

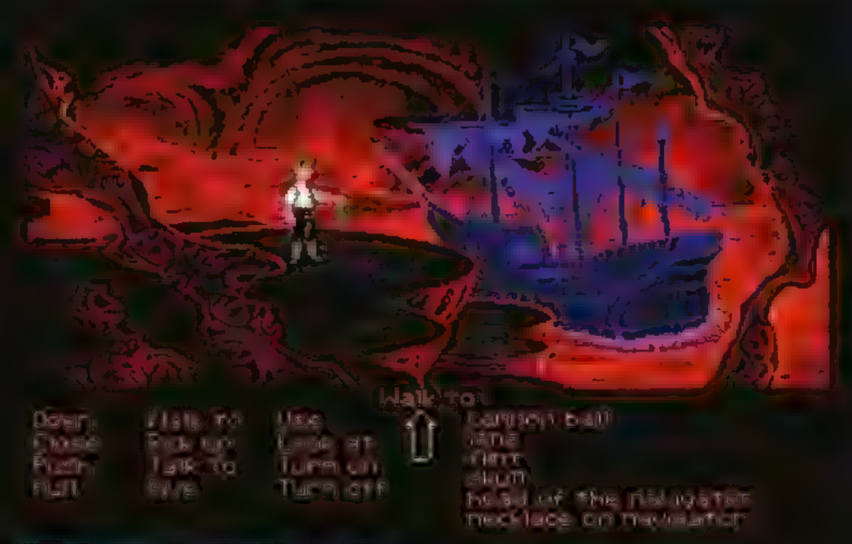
YOUR HAEMORRHOIDS ARE FLARING UP AGAIN, EH?

How useful was the experience of developing *Monkey Island* for your future adventure videogame projects like *The Cave* and your upcoming adventure, *Thimbleweed Park*? What is it like slipping back into that style of game?

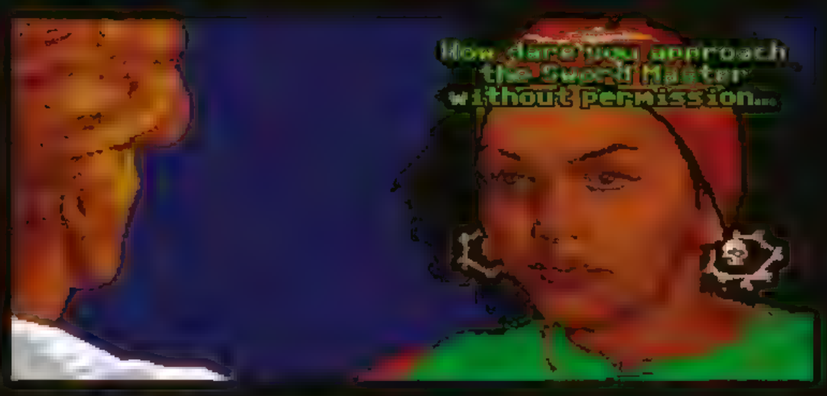
Monkey Island was the first game where I felt I had once-and-for-all figured out what an adventure game should be. I learned a lot on those games, and still use a lot of the same game design and puzzle construction methods today. If you look at the puzzle structure of *Monkey Island* and the puzzle structure of something like *The Cave* they share a lot in common. And with *Thimbleweed Park* we are definitely trying to capture a lot of the charm and sensibilities of the old LucasArts games...

How do you feel about the fact that the first two *Monkey Island* games are still remembered and rated so highly by Retro Gamer readers after all these years?

It's very humbling. There are two things in my career that I'm most proud of. *Monkey Island* is one of them and Humongous Entertainment is the other. It's amazing for me to hear what those games meant to people and to realise I was a part of that. And that people that weren't even born when the games originally came out are discovering them through the *Special Edition* versions on their consoles or mobile devices. I never would have believed it back then... People tell me that they learned English or how to read from playing *Monkey Island*. People have had *Monkey Island* weddings. Two people have asked me if it was OK to name their new child Guybrush. It warms my grumpy heart. But not too much, I'm still grumpy.



» LeChuck ominously anchors his ghost ship in a river of lava – as if ghost ships weren't frightening enough...



» Meeting and fighting the Sword Master is just one of the memorable moments from *Monkey Island*.

WHY SEGA'S SEQUEL RULES

18 Streets Of Rage II

■ Year: 1996 ■ Platform: Mega Drive

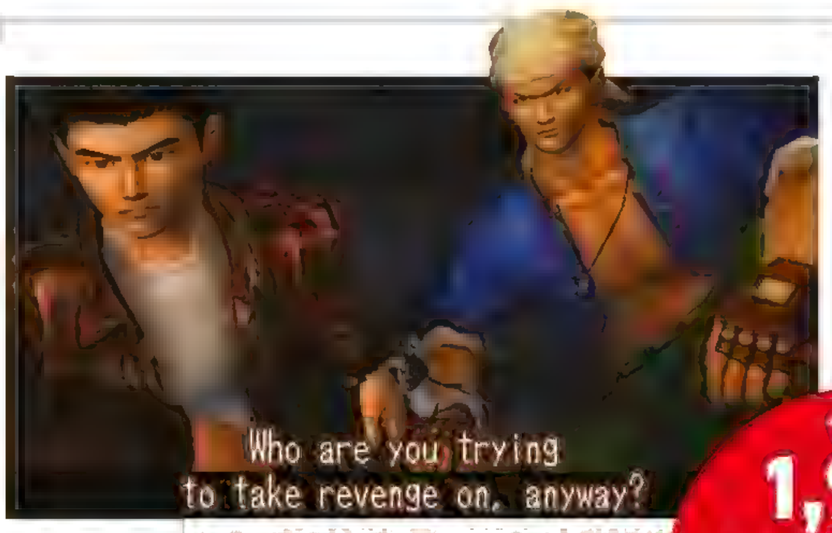
■ The addition of new characters Max and Skate gave options for players who wanted extreme strength or unsurpassed speed.

■ Every character boasted new unique special moves, allowing them to clear out crowds of enemies while inflicting major damage.

■ Bigger sprites and better animation pushed the Mega Drive, bringing the look and feel of coin-op beat-'em-ups into the home.

■ Yuzo Koshiro delivered another round of pulse-pounding dance tracks, somehow managing to top the excellent soundtrack of the original game.

■ More varied enemy attack patterns included motorcycle assaults, spectators jumping in from the background and strikes from above.



1,965
Yu Suzuki's forklift tweet prior to the announcement of *Shenmue 3*.
1,571

RYO GOES TO HONG KONG

16 Shenmue II

■ Year: 2001 ■ Platform: Various

They say calm comes before a storm, and *Shenmue*'s sedate pace gave way to a Hong Kong-based sequel which saw Ryo engage in much more dangerous situations. From chasing down thieves to being chased by a chainsaw-wielding maniac, this chapter of the quest for revenge against Lan Di involved much more fighting. If that doesn't appeal, you can still drop by the arcade and even race some ducks.

BETHESDA'S PETE HINES ON A MODERN CLASSIC

17 The Elder Scrolls V: Skyrim

■ Year: 2011 ■ Platform: Various

How does it feel knowing our readers consider *Skyrim* as much a classic game as *Pac-Man*, *Super Mario World* and *Elite*?

I think it's a pretty great tribute to the team at Bethesda Game Studios that it created something people feel so strongly about, to be included amongst some of the most iconic, important games in videogame history.

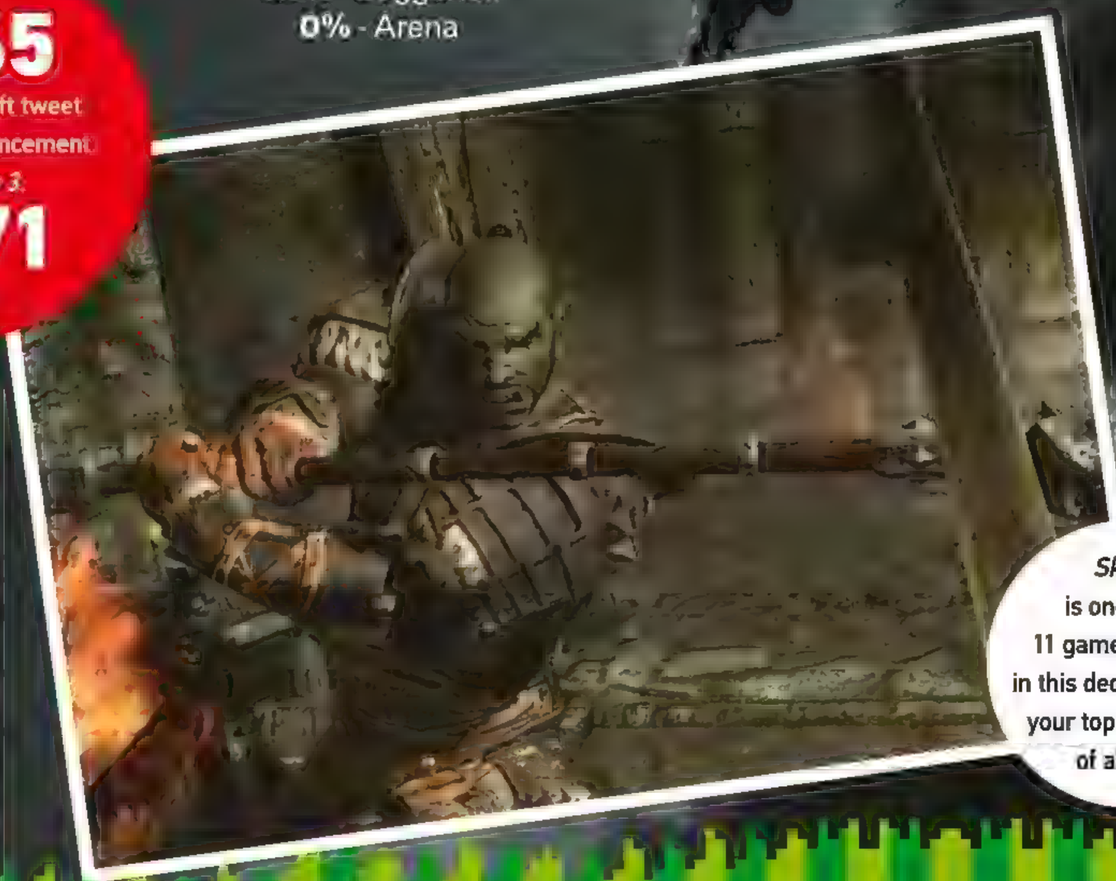
Why do you think our readers consider *Skyrim* to be one of the greatest games of all time?

I would guess different people might have different reasons, but that's part of what (I think) makes *Skyrim* great: it's a game you can make your own. You're telling your own story of who you want to be, and what you want to do, and the game allows that to happen in so many different ways. It's the combination of shared experiences and experiencing things that your friends have never seen or done in the game. I am glad so many people have enjoyed it so much.

Turn to page 202 for our feature on The Elder Scrolls V: Skyrim

THE FINAL VOTES

42.61% - Skyrim
15.22% - Oblivion
11.16% - Morrowind
1.1% - Daggerfall
0% - Arena



Skyrim is one of just 11 games released in this decade to make your top 150 games of all time.

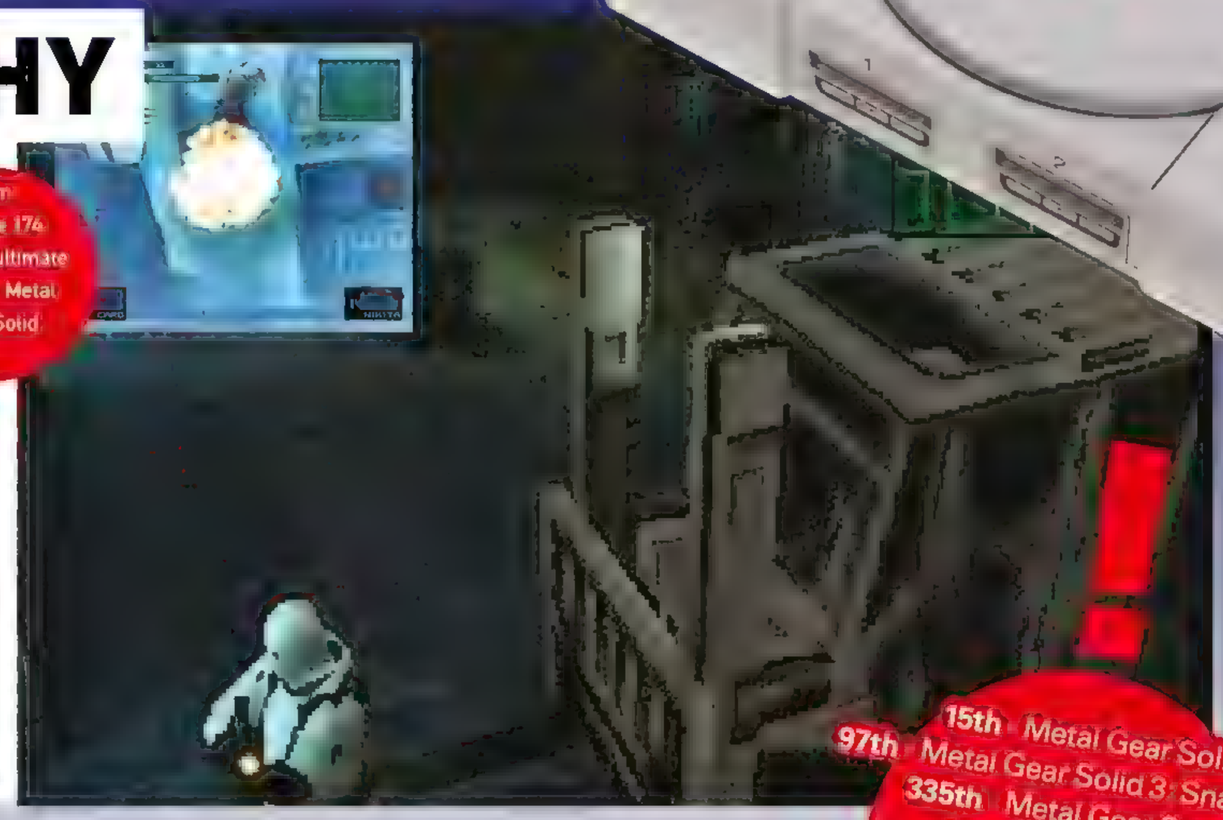
KONAMI'S STEALTHY SUCCESS

15 Metal Gear Solid

■ Year: 1998 ■ Platform: PSone

Turn to page 174 for our ultimate guide to Metal Gear Solid

Many games have imitated *Metal Gear Solid*'s obvious qualities – its focus on cinematic storytelling, its expertly-crafted stealth-based gameplay and its bizarre sense of humour. However, the reason that it's so high on your list is that there's arguably not been a game as inventive since. Your memory card, your control pad, your knowledge of real-life TV sets and even the game's packaging were utilised in imaginative ways to enhance the game experience. Lots of games are clever, but Hideo Kojima's 3D debut was –and is – a work of creative genius that proved to be years ahead of the competition.



15th Metal Gear Solid
97th Metal Gear Solid 3: Snake Eater
335th Metal Gear Solid 4: Guns Of The Patriots
430th Metal Gear Solid 2: Sons Of Liberty
500th Metal Gear
749th Metal Gear Solid: Peace Walker

SONIC RETRO'S COURTNEY GRIMES ON A STUNNING SEQUEL

14 Sonic the Hedgehog 2

■ Year: 1992 ■ Platform: Mega Drive

When did you first encounter *Sonic 2*, and what did you make of it?

Like lots of folks, I first encountered *Sonic 2* in Christmas 1992. I remember poring over the tome-like holiday guides put out by *Electronic Gaming Monthly* and *GamePro*, marking up the department store catalogues that showed Sega games and desperately hoping my parents wouldn't screw up and accidentally buy something for our Super Nintendo or Master System. Come Christmas morning, I start unwrapping gifts and the first box I open is an extra Genesis controller—so naturally with kid logic, I start crying because my parents messed up. Needless to say, by the end I spent the entire day up until the wee hours playing through to Metropolis Zone, racing my family in two-player mode and loving every minute.

Why do you think *Sonic 2* is the most popular game in the series?

It's important to remember that *Sonic 2* was a triple-A game before the concept of triple-A games really existed. We struggle now to retroactively figure out Western release dates around that time, but everyone knows *Sonic 2*'s day. Promotion for the game saturated every part of Nineties kid culture: features on Nickelodeon, articles in children's magazines, crazy and creative commercials that ran during kids and teens' programming – it became a cultural event of its own, and it was something that even kids who weren't that interested in video gaming knew about and got excited for.

The scale of creative force that was applied to the development of *Sonic 2* was unparalleled at the time. Having two teams be in two different parts of the world collaborating to make a game at a time when most development teams ranged from four to eight people was like nothing seen before. The amount of finesse that went into the art has provided some of the deepest influences to not only *Sonic* games but platformers at large; Masato Nakamura's soundtrack set the standard for what music in games should sound like. When you look at games from 1992 – *Chiki Chiki Boys*, *Kid Chameleon*, *Rolo To The Rescue* – *Sonic 2* looks and feels light years ahead.

What makes *Sonic 2* stand out for hardcore *Sonic* fans?

Sonic 2 stands out for hardcore fans for a few main reasons: one obviously being that the game had the widest impact with sales of nearly 6 million copies of the game, so there's a lot of popular nostalgia there. *Sonic 2*'s emphasis on linear, branching paths also encouraged a thriving community of tool-assisted speedruns and glitch discoveries – what better game to compete with on time than with a character who's gotta go fast?

The ambition that came with *Sonic 2* also left us with a lot of cultural detritus that has been a rich vein to mine – learning about scrapped zones, interviewing developer and using the leftover pieces to become game creators finishing these bits and bobs into full-blown zones!

STREET FIGHTER V PRODUCER PETER ROSAS ON CAPCOMS SEMINAL BRAWLER

Street Fighter II ▪ Year: 1991 ▪ Platform: Arcade

What are your earliest memories of *Street Fighter II*?

My earliest memory was walking home from elementary school and stopping by the local bowling alley right after they got *Street Fighter II*. I just remember seeing this large crowd of teens huddled around this one machine and wondering what it was they were watching. When I finally got close enough to see the screen, I was blown away by the graphics at the time.

Another exciting memory was when I first saw players landing Guile's sonic boom combos. Seeing his moves cancel into special moves totally changed how I approached other characters, as it showed there was more to the game than I thought.

Why do you think *Street Fighter II* remains so popular with gamers?

I think there are quite a few factors as to why *Street Fighter II* remains so popular to this day. I could go on and on about the various reasons, but instead I will concentrate on two: iconic character design and music.

You have these iconic characters, whose design and fighting styles are caricatures of the country they represent. Although they seem outlandish, I think that in the back of everyone's mind they could actually visualise a one-eyed kickboxer in Thailand, or an enlisted soldier who fights out of the US kicking ass.

Another big reason is definitely the music. Just about every character theme in *Street Fighter II* not only fits the character, but also the stages in where the fighters do battle. The music also helps raise the tension of the battle with the songs speeding up towards the end of each round.

Who do you consider the best character and why?

I think the best character is Guile. He has great damage output, long range attacks and the best projectile

recovery in the game. He also has the coolest looking combos!

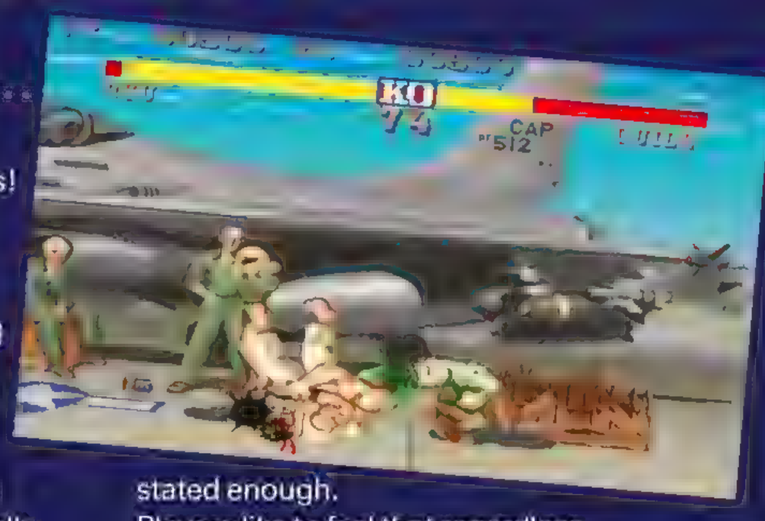
What makes a great competitive fighting game?

The elements that make a good fighting game are accessibility, depth, and balance.

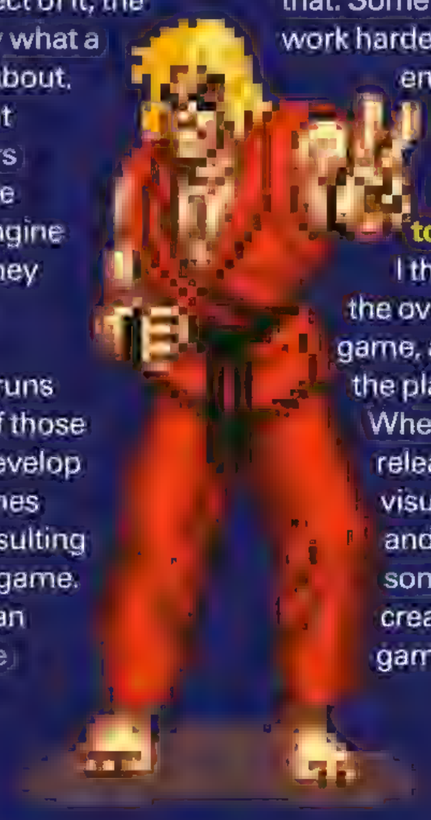
Accessibility is important, as you want more people to be able to play the game and actually understand why they're winning or losing. The faster players can figure out the game system and move on to the competitive aspect of it, the faster they can enjoy what a fighting game is all about.

Depth is important because once players understand the game they'll explore the engine to see what tactics they can devise to defeat opponents. If the gameplay is rigid, it runs the risk of turning off those who aren't able to develop tactics against the ones they're losing to – resulting in them quitting the game.

Lastly, balance is an element that can't be



stated enough.
Players like to feel that regardless of what character they use they always have a chance at winning. A properly balanced game allows for that. Some characters may have to work harder than others, but at the end of the day, that work is rewarded with a victory.



How critical is the music to the game?

I think it's pretty critical to the overall experience of the game, as it can really immerse the player into the game world. When *Street Fighter II* was released, it had amazing visuals, innovative character and battle design - as well as some of the best music ever created for not only fighting games, but games in general.

RETRO GAMER'S KARTING HEROES

12 Super Mario Kart

■ Year: 1992 ■ Platform: SNES

We're not surprised to see *Super Mario Kart* chart so highly (although three *Mario Karts* in the top 150 feels a little excessive). It was one of the first games from Nintendo that proved Mario had true crossover appeal, but it was also an excellent racer in its own right. Even today *Super Mario Kart* is amazing fun to play, particularly when having time trial competitions with friends, a mode responsible for many missed deadlines during our university days. The track design throughout is excellent, there's good variety between the eight playable characters and the three difficulty modes ensure plenty of replay value. Oh, and it pretty much setup the entire kart racing sub genre, too. All hail *Mario Kart*.

GAMES™'S JON GORDON ON A NES CLASSIC

11 Super Mario Bros 3

■ Year: 1988 ■ Platform: NES

What's your earliest memory of *SMB3*?

Probably getting the game for Christmas and spending several hours, still in my pajamas, playing through the opening levels. The vibrant colour of the game compared to the original was amazing. Plus getting the Super Leaf and flying for the first time was mind-blowing.

Why was it an important platformer?

It was perfectly balanced from start to finish. As with any Miyamoto release it teaches players effortlessly what the rules of the game are as you progress. It was juggling so many new mechanics, but it instantly felt familiar and tighter than anything else before.

How did it influence later *Mario* games?

Well, it established the *Mario* costume mechanic with the Tanooki and Frog suits, which has gone on to pretty insane levels in recent years. And we wouldn't have had the amazing cape mechanics of *Super Mario World* without it either.

What level/world defines the game for you?

That's tough. The first level (World 5-3) with the Kuribo shoe is a big one for me personally. It's one of my favourite *Mario* power-ups. The Airship levels stand out though. The forced scrolling, barrage of cannon and Bullet Bill fire and imposing soundtrack remain superb on all of them.

DARRAN JONES
Editor
■ I choose Mario. It's partly because he's a balanced character and the star of the show, but it's also because I'm lazy and he's the first racer that's selectable.

JONATHAN WELLS
Art Editor
■ Koopa Troopa all the way, he always seemed like one of the more balanced characters but with an added speed boost. He's still my go-to character!

NICK THORPE
Senior Staff Writer
■ My allegiance lies with Yoshi – he's great at recovering from hits thanks to his excellent acceleration, and his top speed isn't as woeful as that of the lightweight characters.

DREW SLEEP
Production Editor
■ Given the fact that Mushrooms give you a boost the fungus-clad Toad is synonymous with speed, and I'm all about speed. He's also rather adorable, and equally as idiotic.

Turn to page 168 where we talk to the GoldenEye 007 developers

DAVID DOAK PICKS UP THE GOLDEN GUN

10 GoldenEye 007

■ Year: 1997 ■ Platform: N64

What was your role on *GoldenEye*?
The majority of my input was setting up the single player levels, turning story into game. I really enjoyed the challenge of getting the main NPC characters to work. Their behaviour and AI may seem dated now but at the time I think all of the non-combat stuff was very innovative. I did write some very shoddy code to run the in-game watch menu, although I'm sure Martin Hollis used to fix it when I wasn't looking.

Why do you think it's so fondly remembered?
A lot of things came together. It looked and sounded great and was state of the art on the N64. The core gameplay was well implemented and enhanced by game engine features like location based hits, dynamic props, explosions, sniping... and hats! Single-player transformed what features people expected from an FPS. It had a variety of story themed objectives, interesting AI, stealth based elements and all of this added to the feeling of being Bond. Then there was multiplayer. At the time, you couldn't really play competitive FPSs without PCs and a LAN but *GoldenEye* put it right in your front room.

Would you ever play as Oddjob in a deathmatch?
Multiplayer Oddjob is a crutch for the incompetent. I think if you choose him you are making a fairly clear personal statement.

HOW CAPCOM'S FOURTH RESI REIGNITED A GENRE

9 Resident Evil 4

■ Year: 2005 ■ Platform: Various

- The over-the-shoulder perspective hits the sweet spot between the cinematics of a fixed camera and the immersion of an FPS
- Laser-sighted gunshots are damn handy for really hitting the shambling hordes where it hurts
- Those violent villagers really don't take to strangers – look how they work together to make your life hell
- When it comes to boss battles, these really are epic. Del Lago put us off swimming forever
- Buying and selling items is key, though why does the merchant never remember us? Shouldn't we have a loyalty card?

Turn to page 198 for our full making of feature on Resident Evil 4!

JON ROMERO REVISTS ID'S GAME-CHANGING FPS

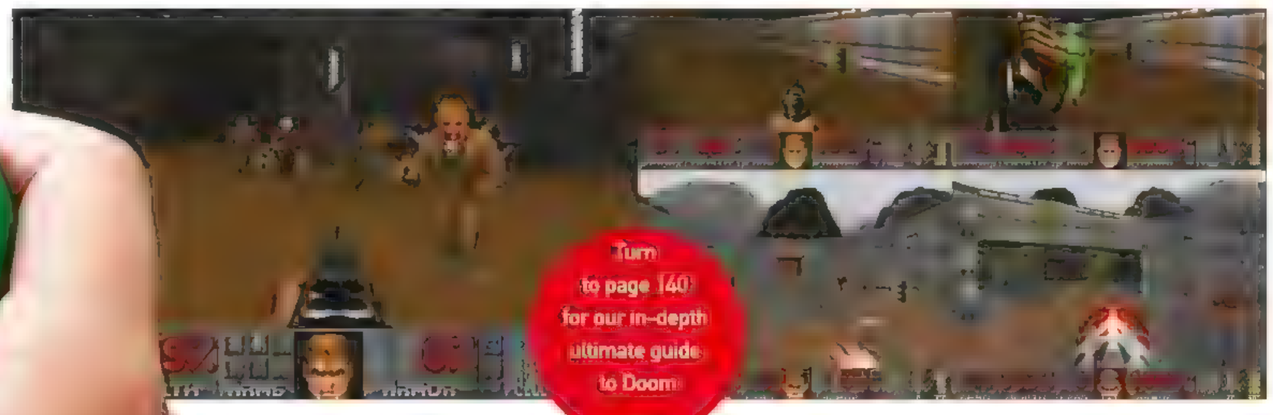
8 DOOM

■ Year: 1993 ■ Platform: Various

Is *Doom* the best game you've been involved in?
Yes, definitely. It was the right game at the right time and it was a lot of fun to create. As a company, *Doom* was where we really hit our stride. Even though it wasn't Tom Hall's cup of tea, everyone else was really into it. John Carmack pushed the industry forward technically with BSPs, multiplayer mode and the diminished-lighting 2.5D engine. Adrian Carmack and Kevin Cloud created an amazing array of iconic art and Bobby Prince made a great soundtrack. When we finished the game we just didn't want to see it again for a while but only two weeks later we were as addicted to it as anyone else!

Why do you think the game is so well-loved?
It still feels great from a player control perspective. The enemies are well-balanced in regards to the control afforded to the player and the level design and sound effects create an ominous atmosphere. Even though modern day FPS design has progressed, these elements still make a fun game. It's timeless in that respect.

Which is your weapon of choice when playing *Doom*?
The Double-Barreled Shotgun. Second choice is the Rocket Launcher.



Turn to page 140 for our in-depth ultimate guide to Doom

If you can get a character's HP to exactly 7,777 in battle, they'll perform a huge 64-hit attack in which each hit deals 7,777 damage.

ANGST

■ You know how every Japanese RPG seems to have a brooding, angsty hero? That's Cloud's fault. Having said that, if you were forced to watch the life slip from the bodies of your loved ones, you'd probably be a bit miserable too.

BUSTER SWORD

■ If you're going to have a big, cool sword, why not have the biggest, coolest sword that your Gil can buy? Cloud subscribes to this philosophy, which is why he carries this absolutely enormous wedge of a weapon.

AMNESIA

■ Another classic Japanese RPG trope, here – although in Cloud's case it's not quite the case. See, he's got memories. It's just that you're never quite sure which parts of his life story aren't exactly true, and neither is he...

PRETTY BOY

■ Not only is Cloud a hit with the ladies, earning the affections of both Tifa and Aeris as well as other characters, he's capable of outdoing the ladies when he crossdresses his way into a 'meeting' with Don Corneo.

QUEST FOR VENGEANCE

■ Sure, Cloud's issues with Sephiroth do stretch into the scale of planetary jeopardy, but let's not forget that more than anything else, he's avenging the murders of his mother and his love interest.

SEVEN FOR VII'S ULTIMATE HERO

7 Final Fantasy VII

■ Year: 1997 ■ Platform: PlayStation

They say that you never forget your first, and *Final Fantasy VII* was the game that introduced a whole generation of Western players to Japanese RPGs. It didn't just do that though – it gave the whole genre a much-needed makeover. The genre had long had a reputation for underwhelming visuals and cookie-cutter 'knights and dragons' settings. *Final Fantasy VII* carried a modern style and exhibited an extraordinary cinematic flair, distancing it from the games that had gone before it, while backing that up with a flexible battle system, an emotional storyline and an quest that takes dozens of hours to beat.

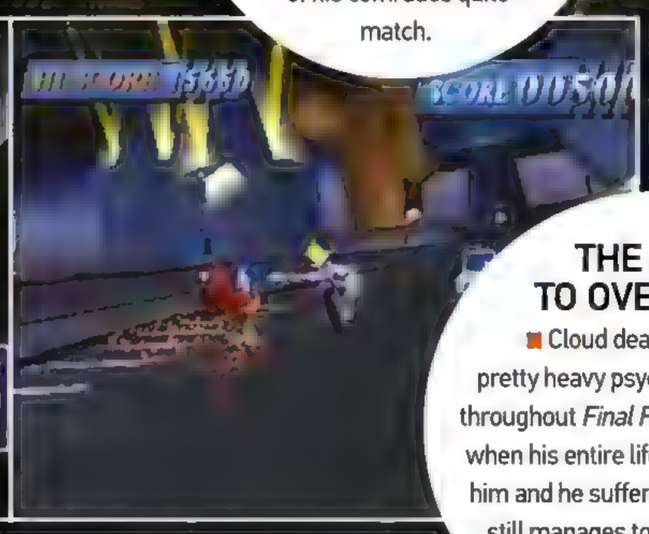
Turn to page 158 for our making of feature on Final Fantasy VII

CHOSEN ONE

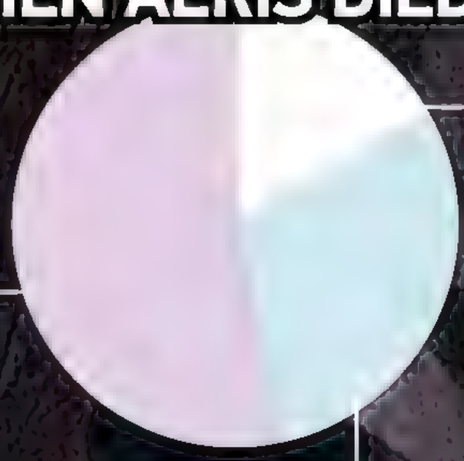
■ While Cloud isn't half-dragon or the last member of some ancient and powerful race, he *is* the product of experimentation that has turned him into a formidable combatant, in a way that none of his comrades quite match.

THE WILL TO OVERCOME

■ Cloud deals with some pretty heavy psychological battery throughout *Final Fantasy VII*, but even when his entire life crumbles around him and he suffers a breakdown, he still manages to eventually piece things back together and struggle on.



DID YOU CRY WHEN AERIS DIED?



COLLECTOR CHERYL GOACHER ON HER LOVE OF HYRULE

6 The Legend Of Zelda: A Link To The Past

■ Year: 1991 ■ Platform: SNES

What is it you like about the *Zelda* series?
That's a tricky one. I guess it's that feeling of exploration and adventure that lured me in. I also enjoy the selection of almost fairy-tale-esque characters in the series. I guess that sums it up well; it feels like a series of interactive fairy-tales.

How long have you been collecting *Zelda* merchandise?
It was around the late-Nineties that I started seriously collecting *Zelda* merchandise, so over 15 years now. While I've not been able to get everything I've wanted or found for various reasons (space, money, availability, etc.), I'm proud of what I've managed to get my hands on during this time.

What's your earliest memory of *A Link To The Past*?
When my family took myself and my brother to get our SNES, the game I actually chose was *Super Mario All-Stars*. It was thanks to my Dad selecting *A Link To The Past* among his choices that I was able to experience it. I remember studying the instructions and map of Hyrule, reading up on the backstory and becoming engrossed in this world, even before playing the game! Once I started playing, I found it to be as magical as I'd envisioned after brushing up on Hylian lore.

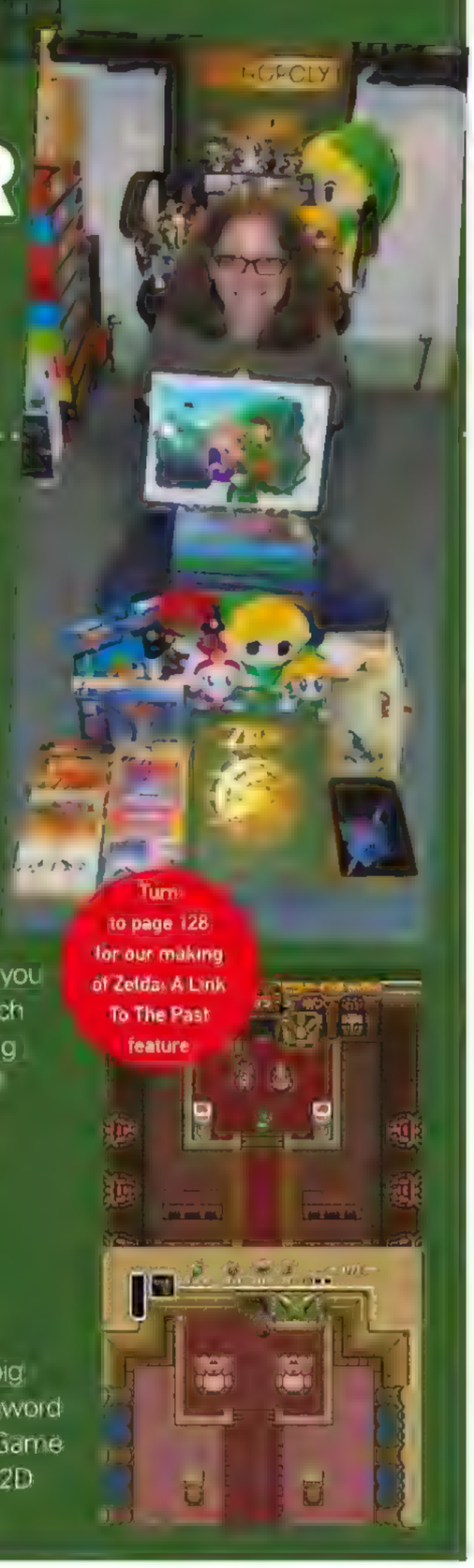
Why do you think *A Link To The Past* is considered the best 2D *Zelda* game?
A Link To The Past not only provided the template that certain future titles would follow, but it did so with a real fantasy, swords-and-sorcery atmosphere that later games struggled to match. Oh, and it's the only *Zelda* game so far to feature a pink-haired Link!

How did it improve on the earlier *Zelda* games?
Aside from the aforementioned 'swords-and-sorcery' atmosphere, the power of the SNES allowed the Light and Dark Worlds – and their populations – to appear more alive. This is especially true given the myriad characters and enemies you come across.

Which bosses stand out in *A Link To The Past*?
Avoiding the obvious Ganon/Agahnim answer, the Helmasaur King comes to mind immediately for some reason. Probably because of how imposing it looks, plus you have to kill it by smacking its head with the hammer, which is always fun! Moldorm also stands out, but for the wrong reasons: it's a real nuisance to defeat if you're not careful!

What's the best weapon in the game and why?
The Golden Sword. It turns cute little Link into a death machine, especially when using the Pegasus Boots for ultimate sword-ramming power!

What's the best moment in the game and why?
Strangely, I like a lot of the little moments as well as the big ones, such as when Link does a little spin and holds his sword aloft after finishing a dungeon, or – rather morbidly – his Game Over animation, which still holds more charm than other 2D *Zelda* games that employ the same sort of animation.



Turn to page 128 for our making of Zelda: A Link To The Past feature

Apparently this was the exact face Darran pulled when he played Super Mario 64 for the first time...

A GAME WITH DEPTH

Turn to page 152 for our ultimate guide to Super Mario 64

5 Super Mario 64

■ Year: 1996 ■ Platform: N64

The transition from 2D game design to 3D wasn't easy on many developers. From *Lemmings* and *Street Fighter* to *Sonic* and so many others, awkward transitions to the third dimension were a mainstay of Nineties gaming. But if you were a Nintendo fan, you probably didn't notice that. When everyone else was struggling to find their feet, Nintendo strode confidently into a new generation to show other developers how it was done. *Super Mario 64* wasn't just a good game or even a great game, it was a masterpiece of 3D platform game design that went unsurpassed for a whole generation.

Instead of trying to directly port the largely linear stages that worked in 2D Mario, Nintendo designed the game around open 3D spaces with no fixed end point. Each stage offers a variety of objectives to ensure that players explore every nook and cranny, from battles and coin hunts to races and puzzles. The game is packed with memorable moments, from little touches like jumping into rippling paintings to big set-pieces like swimming with the manta ray. There are no rose-tinted glasses here – *Super Mario 64* is the essence of its genre, distilled into a single game.

PUZZLE PERFECTION

4 Tetris

■ Year: 1984 ■ Platform: Various ■

No game is quite so ubiquitous as *Tetris*. Just about every format has a version, official or otherwise. You might have been feeding your Game Boy batteries to keep playing, but you might have bought one of the 100 million copies sold on mobile phones, or mastered *Tetris: The Grand Master 3* in an arcade, or even hunted down *V-Tetris* for the Virtual Boy. It's a game that unites gamers of every experience level and every format.

Of course, it wouldn't be so high if it weren't so good. *Tetris* is the kind of game that gets its hooks into you – the compulsive nature of sorting shapes and eliminating lines means that a one game can turn into an all-night session. You can *easily* beat your score and you're *sure* that last game over was a freak accident. There are prettier games than *Tetris*, as well as more complex games and games that will leave a lasting emotional impact. But are there any games which inspire more addiction than *Tetris*? We don't think so.

Turn to page 74 where we talk to Tetris creator, Alexy Pajitnov!

BY THE NUMBERS

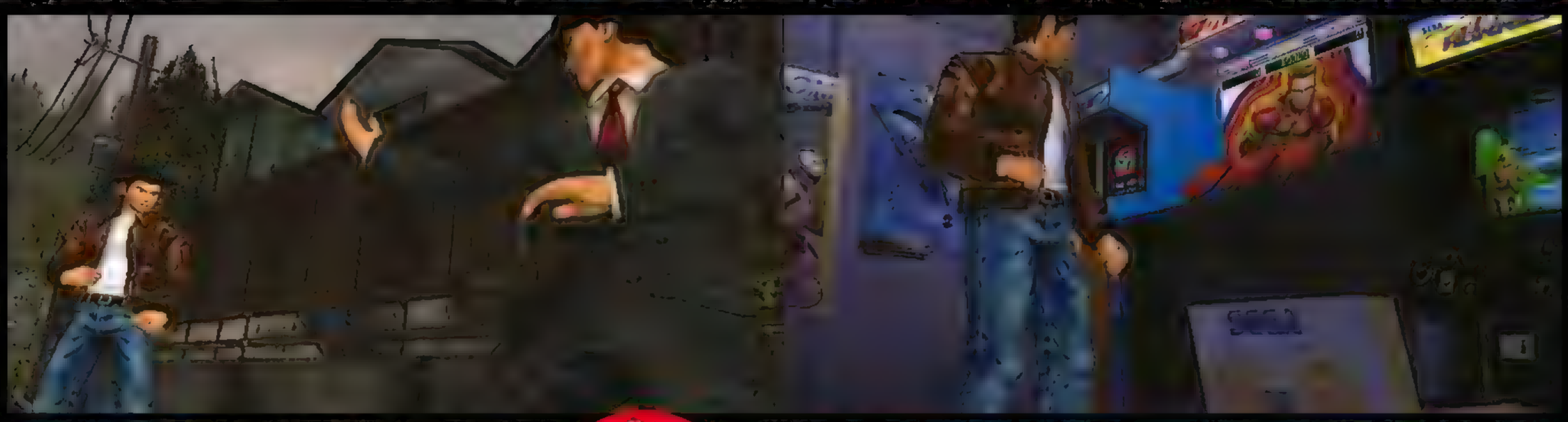
170 MILLION: The last cumulative sales total given for the *Tetris* series.

35 MILLION: How many of those were Game Boy *Tetris*.

748,757: Twin Galaxies' record points, scored by Uli Horner on Game Boy *Tetris*.

6: Number of times Portland Retro Gaming Expo has held Classic Tetris World Championship.

5: Number of times Jonas Neubauer has won Classic Tetris World Championship.



THE WORLD SIMULATOR

3 Shenmue

■ Year: 1999 ■ Platform: Dreamcast

Flick through to page 188 for our full making of Shenmue feature

There's never been a game quite as ambitious as *Shenmue*. Yu Suzuki envisioned a mixed-genre epic combining exploration and investigation with fighting, racing and all manner of minigames. *Shenmue* was to be a game in which you could talk to anyone, visit any shop you wanted and even use any vending machine. What's amazing how comprehensively that vision was delivered – though as the world's most expensive videogame development, it had to deliver.

Because *Shenmue* is so grounded in real life, it doesn't have the typical flow of a videogame. If you're meeting someone at a certain time, you will have to occupy yourself while you wait, and you'll spend far more time chasing down leads than getting into scraps – just like you would in your day-to-day life, right? It's a game that moves at a sedate pace – one which allows some players to appreciate the detailed world in full, but strikes others as ponderous.

Ryo Hazuki's quest for revenge isn't universally appealing, but the players that love it do so with a burning passion because no game – and we're including the sequel here – is quite like *Shenmue*.

Q&A: SHENMUE DOJO'S GEORGE MELITA

When did you first encounter *Shenmue*?
I first heard of the game when it was rumoured to be *Virtua Fighter* RPG. I eventually saw some promotional CG art and eventually *Project Berkley*. At the time, the realistic and somewhat grounded approach set itself apart from many other games, so it was something I wanted to try.

What are the qualities that set *Shenmue* apart from others?
Attention to detail. *Shenmue* can make an alleyway feel more alive than some game worlds. This coupled with the perfect sense of scale and fantastic pacing helps the player appreciate their surroundings. The setting has an charm, while the journey is seemingly endless and gruelling.

Despite the fact that *Shenmue* was absent for so long, fans have remained extremely passionate about the series. Why does it command such loyalty?
Shenmue commands the player to have a very personal connection with the games characters, surroundings and story. This is unique even by today's standards, though to have such an in depth title in 1999 was unheard of. The series' impact coupled with one of gaming's greatest cliffhangers of all time makes it tough to let go of.

GRAPHIC ARTIST MARK R. JONES ON LINK'S GREATEST ADVENTURE

2 The Legend Of Zelda: Ocarina Of Time

■ Year 1998 ■ Platform N64

It's worth pointing out that all of you have voted *Ocarina Of Time* as one of the best games ever made, so even now, nearly 20 years after release, it still possesses so many qualities

Tell us about your first

Ocarina Of Time

inside of N64 magazine and to been particularly

obsessed with all the previews and screenshots that they'd been showing for ages, at least 18 months

released in 1996, then *Banjo-Kazooie* the same in July 1998 in my that had improved on the that were on display graphics wise as well as expanding on what you could do in this world contained inside your N64. You had detailed backgrounds graphics with virtually no 'popping in'. *Banjo Kazooie* Now *Ocarina* was looking again. So I was looking forward to getting my

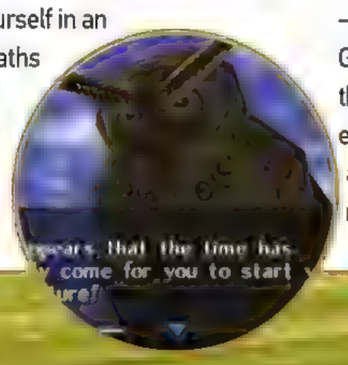
The major one for me was the

Turn to page 180 where we celebrate Zelda: Ocarina Of Time

THE BEST MOMENTS FROM OCARINA OF TIME

FINDING HYRULE FIELD

■ Much like the *Elder Scrolls* games, *Ocarina* opens in a self-contained area, Kokiri Forest, before letting you loose on its world. Once you've ventured inside the Deku Tree, you leave the forest to find yourself in an area with loads of paths to explore – in 1998 this was the most impressive game world out there.



THE FIRST ENCOUNTER

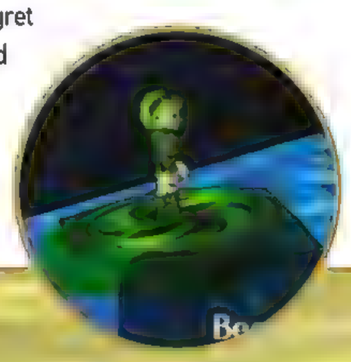
■ You approach Hyrule Castle only to see Zelda legging it out of there with her handmaiden. After she's lobbed the Ocarina Of Time into the moat, you find out why she's in such a hurry – she's being pursued by Ganondorf. This is the first time you encounter him, and it's quite memorable.

COMING OF AGE

■ Time travel mechanics were popularised by *Ocarina*'s sequel, *Majora's Mask*, but they did feature as an important story beat here. When you arrive at the Temple Of Time, you remove the Master Sword and are transported to seven years into the future, and everything has changed... including Link.

AN OLD FRIEND

■ After leaving her in the woods, you finally reconnect with Saria after beating the Forest Temple. Saria is now the Forest Sage, and Link reawakens her by beating Phantom Ganon. Saria expresses her regret that Link vanished for so long and professes her unrelenting friendship.



"The music was great... Those tunes have stuck in my head for 17 years"

Mark R. Jones

really, simple to engage in combat with the various fiends and foes in the game. Honestly, I'm pretty rubbish at playing games and in previous titles I'd be flailing around trying to slash and hack at whatever was attacking me. *Ocarina* had this target lock system where you'd be able to lock on to the bad guy then all your attacks would be aimed in the right place, exactly where it's going to count. The camera worked well, too, you could circle something that was attacking you and the camera would pan round so you could still see what you were doing. I rarely had any issues with that. I don't remember not being able to see myself at the most important times. Games with [illegible] games as, for example, Mario 64 sometimes have it so [illegible] was [illegible]

Also, the team did manage to create what seemed like a whole world in your N64 that you could explore at your leisure. Everyone loves a bit of escapism and this was perfect for that. It served me well over the dark winter nights of late 1998/99.

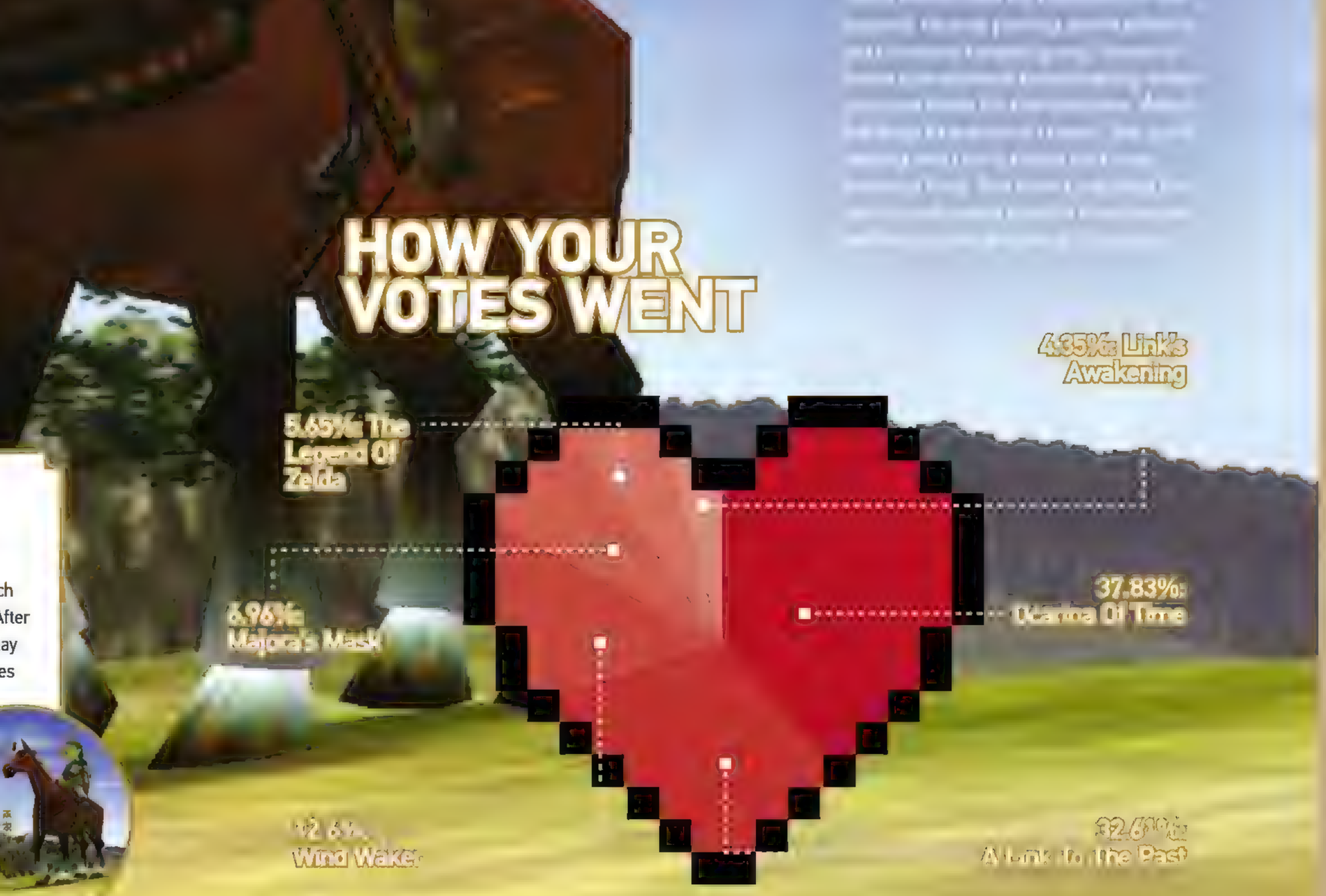
How important was it to the evolution of 3D adventures?

As I said earlier, it upped the level for those genre of games. Anything [illegible] came out after this had to [illegible] improve or beat it. [illegible] would have been [illegible] make a great game you always just wanted to get back to it or [illegible] to see what it was going to throw at you next. It was great [illegible] at the time.

As a graphic artist, how does the game world impress you?

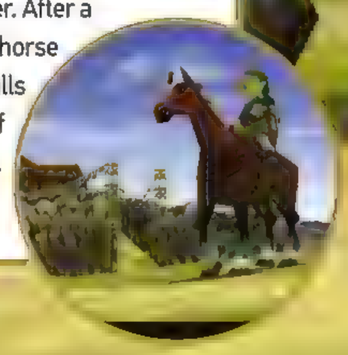
[illegible]

HOW YOUR VOTES WENT



THE HORSE WHISPERER

■ When you return as an adult, Lon Lon Ranch has been bequeathed to Ingo by Ganondorf. After paying Ingo to ride one of his horses, if you play Epona's Song on your ocarina, Epona becomes tame and allows you to ride her. After a couple of wagers, you win the horse from Ingo, leaping over the walls before coming to rest on top of a hill in suitably heroic fashion. A great moment.



THE GAME TO PLAY BEFORE YOU DIE

Nintendo's magnum opus sold over 20 million copies and launched one of the greatest consoles of all time. Nick Thorpe takes a look back at Mario's very first 16-bit platformer for the Super Nintendo greatest game ever, as chosen by you

1 Super Mario World

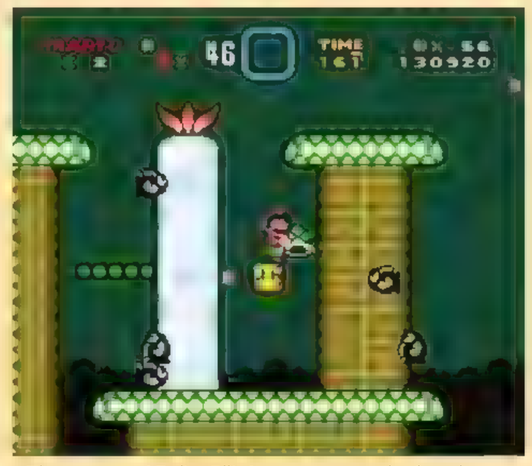
■ Year: 1990 ■ Platform: SNES

When Nintendo finally entered the 16-bit console race in November 1990, it was in the unfamiliar position of having to stake its claim to market leadership against real competition. The company responded in typical fashion, by launching the Super Famicom with possibly the greatest one-two punch in videogame history. The turbo-charged Mode 7 racer *F-Zero* offered plenty of substance, but its appeal hinged on style and the lure of the unfamiliar. It was Nintendo's way of demonstrating technological superiority. On the other hand, *Super Mario World* definitely looked the part, but its main function was to provide substance and familiarity (in fact, the game bore the subtitle *Super Mario Bros. 4* in Japan). With it, Nintendo intended to reaffirm its position as the world's leading developer of videogames – and it succeeded.

» Sumo Brothers are challenging – they'll hammer lightning downwards, setting the ground below ablaze

To advance the game past its superb predecessors, Nintendo assigned a mixture of veteran hands and new talent to develop *Super Mario World*. Of the 15-strong team that developed the game, nine were returning from *Super Mario Bros. 3* and one had previously worked on *Super Mario Bros. 2*, while the remaining five had no prior credits and injected some fresh insight. The other major change was a new lead game director – in this case Takashi Tezuka, who had previously served alongside Shigeru Miyamoto as an assistant director and later co-director. Miyamoto himself remained on the development team, but stepped back into the less hands-on role of a producer.

As far as the basic game design is concerned, the team wisely decided not to fix what wasn't broken. The block-based level designs are familiar to anyone that has played a *Mario* game, and Mario's skills and abilities



» This swarm of Bullet Bills is testament to the fact that there's a real challenge present

are largely drawn from *Super Mario Bros. 3*, albeit with a few tweaks. The variety of special forms was scaled back to Fire Mario and Caped Mario (a new form, but one functionally similar to Raccoon Mario), and Mario retained the ability to kick carried items but could not boot them skyward. Other than that, the ▶

YOUR FAVOURITE POWER-UP

SUPER MUSHROOM 9%

CAPE FEATHER 47%

STAR 17%

FIRE FLOWER 27%

FLYING GOOMBA

FLYING KOOPA

SUPER KOOPA

PIXEL PERFECT

PARA-BOMB

SUMO BROTHER

VOLCANO LOTUS

MASK KOOPA

AMAZIN FLYIN' HAMMER BROTHER

NINJI

DINO RHINO

POKEY

CHARGIN' CHUCK

MEGA MOLE

BANZAI BILL

REX

YOSHI

KOOPA

MONTY MOLE

PIRHANA PLANT

WIGGLER

DINO-TORCH

MUNCHER

GAME BOY ADVANTAGE

Super Mario World only has one non-emulated conversion and Super Mario Advance 2: Super Mario World is certainly interesting

[redacted]

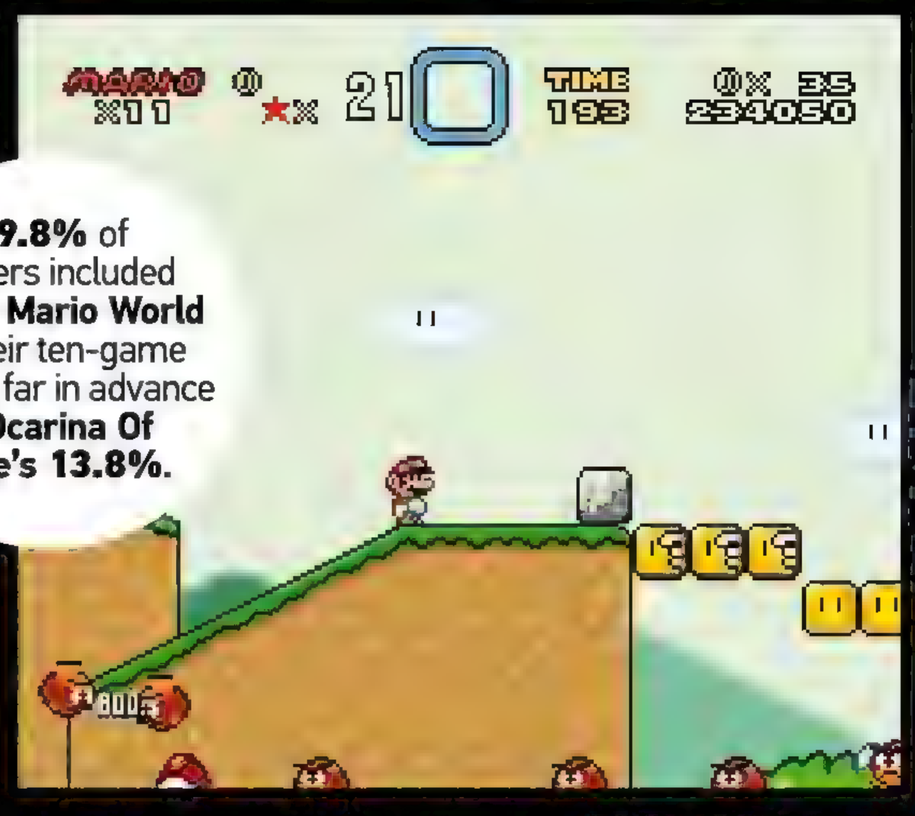
portly plumber gained a new companion in the form of Yoshi, a dinosaur that will grant him a ride and eat quite a few of the enemies that stand in his way.

The major innovation of *Super Mario World* was its structure. *Super Mario Bros.* had introduced the concept of multiple stage exits with its Warp Zones, and *Super Mario Bros. 3* had introduced a world map to the series. What *Super Mario World* did was to combine the two concepts into a non-linear experience. Whenever a stage had more than one exit, there was usually a good reason to seek that extra exit – at the very minimum it could lead to a secret stage, but it might also lead to a warp or even one of the game's Switch Palace stages. When completed, each of the four Switch Palaces activated appropriately coloured blocks throughout the game – you could tell where they were meant to be thanks to the appearance of their coloured outlines. Often they just made things a little easier by blocking off pits or providing extra platforms, but occasionally they would be crucial to making progress.

In retrospect, *Super Mario World* is surprisingly economical with its resources, given its status as a showcase game for a new console. Take the game's music as an example – Koji Kondo's soundtrack makes excellent use of theme and variation. When you first hear the overworld music, you get your first experience of a melody that persists throughout the game, forming the basis for almost every piece of action music from the underground and underwater stages to the castles and ghost houses. Likewise, while it's always visually enticing, *Super Mario World*'s wealth of levels means that it inevitably reuses backgrounds and objects frequently. What's more, the game makes sparse use of the console's advanced graphical features – where other designers might be tempted to design in such a way that highlights them, transparency and Mode 7 scaling and rotation are only deployed where they make sense in the context of the game design.

That's the real genius of *Super Mario World*, though – it is a textbook example of a design team managing to make a lot from a little, because fresh ideas are never in short supply. You can take the scenic route through the game, taking in as many stages as possible on the way to the climactic fight with Bowser, and never encounter the contempt that repetition breeds. When you encounter a tense section in which you hop between moving platforms as buzzsaws hurtle towards you, that's the only time it'll happen. Even late in the game, you'll find new ideas, like a maze built from overlapping

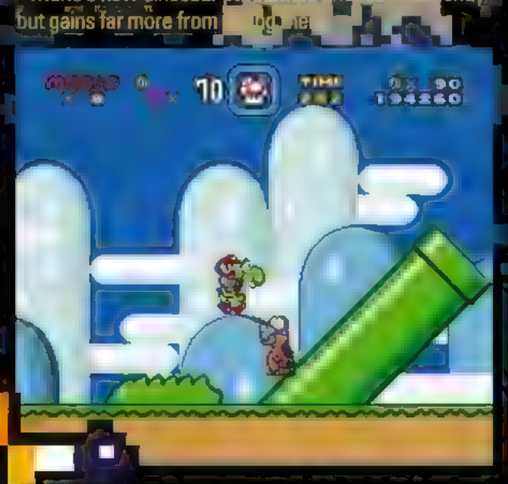
19.8% of readers included **Super Mario World** on their ten-game ballot – far in advance of **Ocarina Of Time's 13.8%.**



» *Super Mario World* offers visual cues – these slopes make the solution to this line of enemies obvious.

» Blargg is a sneaky foe, checking that you're approaching before it emerges from the lava.

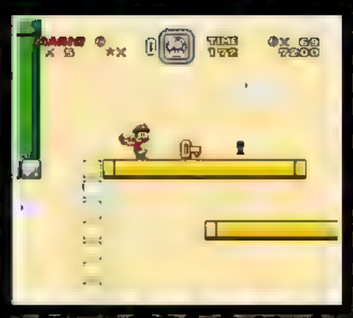
» Secret exits are the key to *Super Mario World*'s long-term appeal (pun definitely intended).



» Mario's new dinosaur pal [redacted] efficiently but gains far more from [redacted]

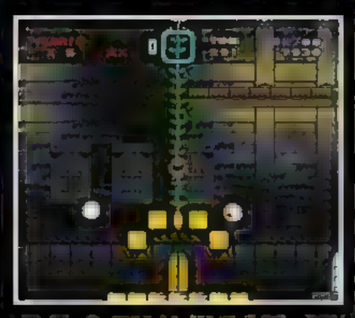
THE SHORTEST ROAD

Do you want beat this classic, but are pressed for time? Worry not – with this guide, you'll have the game finished quick



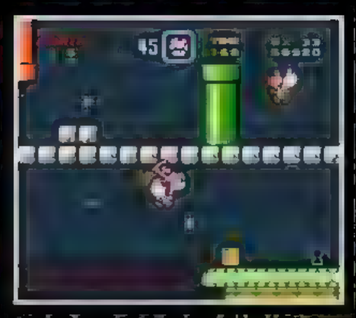
1 Start with Yoshi's Island 2 and play normally until you reach Donut Plains 1. Once you get there, grab a cape from a Super Koopa. Use it to fly to the key near the end of the stage for a secret exit.

2 In Donut Secret 1, you'll need to find another secret exit – you can do this by finding a P Switch, then using it to turn these blocks into coins so you can retrieve the key from the Question Block.



3 Donut Secret House has a hidden boss fight – you'll need to trigger this vine, pictured above, then use a P Switch to reveal a door at the top. Beat the Big Boo and you'll gain access to Star Road.

4 Beat each Star World stage by finding its secret exit. In Star World 2, you can acquire a blue Yoshi which gains the ability to fly when its mouth is full – make sure you leave the stage with it.



5 In Star World 4, use your Yoshi to fly beneath a section of blocks to reach the exit. You can now access Bowser's Castle and beat the game, having seen just 12 of the game's 72 stages.

"Super Mario World is surprisingly economical with its resources"

layers of moving rock. Those ideas which are re-used, such as the new puzzle-centric Ghost House stages, are presented in ways which leave each encounter feeling distinct.

What's all the more surprising is that this level of creativity is found in the series' fourth game. Some of it can be attributed to the power of the SNES allowing the designers to do things that had previously proven impossible, and the addition of a save battery certainly enabled the enormous game world to be realised. However, credit must also go to the development team for breaking new ground when it would have been easy to just provide a slightly prettier version of what had gone before.

But *Super Mario World* was all the more special because it represented the end of an era, as the last traditional 2D *Mario* platformer to hit a home console for many a year. *Yoshi's Island* was a marked departure from the traditional Mario style, and Nintendo took its mascot into the world of 3D for his next major console game. By the time Mario's side-scrolling adventures returned in the *New Super Mario Bros.* series, traditional pixel art and chiptunes had been left behind and things never quite felt the same.

According to your votes, *Super Mario World* is the greatest game of all time. It's not hard to see why, because it comprises all the things about gaming that people love. It looks nice, sounds wonderful and is masterfully designed, offering players an experience that can be enjoyed in whichever way they prefer. If you want depth and discovery, *Super Mario World* can give you that. If you want to make your way to the end as quickly as possible through brute force, that's allowed too. It represents familiarity, as a sequel featuring one of the most recognisable characters not just in gaming, but in all of pop culture. However, as a launch game, it also represents the thrill of new things – that unforgettable rush of excitement you experienced when you saw hardware doing things you'd never thought possible, and the unbounded possibilities that presented themselves in your mind as a result. It's a game that can be – and has been – enjoyed by players of all ages, from all over the world.

Shared nostalgia is what brings us together as retro gamers, and according to you lot, [illegible] game appeals quite so [illegible] Mario – the King Of Games.

» Hanging off a dangling rope while avoiding buzzsaws is a unique thrill – it only comes up once.

» The boss themes use the same melody as the action stages, but they feel completely different.

» Ghost Houses typically offer simple obstacles but tricky navigation, requiring brainpower over quick reflexes.

Q&A: ROBERT FENNELL

Known online as GreenDeathFlavor, this speedrunner shares his insight on demolishing Mario's finest game

When did you first encounter *Super Mario World*, and what did you make of it?

My first encounter with *Super Mario World* happened in 1992, when we got a Super Nintendo and my siblings and I were playing in the living room. I was a Mario kid – we had all of the *Mario* games. My best *Mario* memory is when I was first in our house to beat *Super Mario Bros.*.

What's your fastest completion time for *Super Mario World*, and how did you achieve it?

My fastest completion is in 9 minutes 47 seconds (9:47.58). I acheived that in January 2015, breaking a tie between myself and dram55 when we both had a personal best of exactly 9:48.98.

The run was done using a glitch in the game known as the 'cloud glitch'. When Mario collects a coin that Yoshi is about to eat, it gets replaced by the next available sprite, in this case, the Chargin' Chuck. Chargin' Chucks have the ability to give power-ups when eaten. In 2014, it was discovered that you can eat a Chargin' Chuck as small Mario and the game will give you a Lakitu cloud. The Lakitu cloud is useful because it can manipulate Bowser in the Bowser fight, making him stop instantly when it's moving off-screen to the left. This means you can complete the final battle up to a minute faster.

In January I finally got a solid run with a good Bowser battle which resulted in a new record which has stood for ten months now, but is beatable. The record could very well come down a full second or more with a perfect run.

Why is *Super Mario World* such a good game to speedrun?

I believe it's a good game to speedrun because it's a relatively easy game to learn. A lot of levels are beatable by just flying over them. There's also a lot of variety with this game. If you're looking for a fast easy run you can do any level. If you're looking for something a bit longer you can do no Star World. Of course, there's 96-Exit where you beat every level in the game. You could even challenge yourself with the no cape category.

What techniques are essential for any *Super Mario World* speedrunner to succeed?

You should play through the game a bit to get used to the game and its physics. Then practice every level and watch videos to learn new strategies. New runners can find videos for every level on smwwiki.com. I like to use a lot of visual and sound cues. I think it's important to find these cues for executing moves with tight input windows. When you have all the basics down you can begin to study and learn glitches if your goal is to get a fast time.

If you really get into *SMW* speedrunning and learn everything then it's all about the grind. You can't get record overnight, you need to put in a lot of attempts. When I first started I had times of over eleven minutes. It took me about a year and a half before I got world record in my category, so patience is definitely required.

BOSS RUSH

What kind of hero would Mario be if he didn't bring down a few behemoths on his travels? Here's a rogue's gallery of the miscreants he comes up against in Super Mario World

REZNOR

1 This quartet of fire-breathing triceratops stands atop a set of rotating platforms. You'll need to bump them from underneath, but watch out! Once you've knocked a couple of them from their platforms, the ground beneath you will start to give way. If you can't take out the remaining beasts, you'll need to hitch a ride on their carousel in order to finish them off. Oh, and if you were wondering, Reznor *is* named after the Nine Inch Nails frontman, Trent Reznor.

BIG BOO

2 Mario spends most of his time running away from these ghostly baddies, but the Big Boo resident in Donut Secret House is an aggressive sort. Unlike his compatriots elsewhere, he's capable of disappearing at will and is accompanied by a couple of regular Boos. You'll need to pick up Grab Blocks from below and throw them upwards at Big Boo, but they'll only hit when he turns visible. Three hits should be enough to see him off for good.

IGGY KOOPA

3 After battling your way through Iggy's castle, you'll encounter him atop a tilting platform, floating in a sea of lava. What follows is a deadly sumo contest, as you try to push him into the molten rock while he tries to toast you with fireballs. When you jump on him, he'll always slide downwards – so ideally, you want to time your hits for when he's close to the edge and it's tilting down. Fire Mario makes this fight a walkover, incidentally.

MORTON KOOPA

4 Your mere presence is enough to drive Morton up the wall – literally, as he runs towards the wall and then runs straight up it and onto the ceiling. Once he's up there, you'd better keep moving as he's going to try to jump down onto you. When he lands, turn the tables on him and jump on his head. He's the game's easiest boss, and a few hits will see this him off without much of a fuss.

LUDWIG VON KOOPA

6 Hey look, it's a throwback to the original *Super Mario Bros.*! Ludwig is much like the Bowser of old, standing on the right of the screen and breathing fire at you, but now he's got a twist – a spinning backflip which makes getting behind him less of a brilliant plan than it might seem. Jump on his head a few times and you'll see him off. Incidentally, Ludwig Von Koopa boasts one of the game's few non-repeated boss templates.

ROY KOOPA

7 Roy's fight is much like the battle against Morton, but harder – the walls are closing in, making for a claustrophobic work environment. He is defeated in exactly the same way.

LEMMY KOOPA

5 Lemmy is quite happy to try to trick you rather than attack you directly, momentarily emerging from pipes while employing two decoys. The only threats here are the fireball lazily bouncing around the screen and the time limit, although the pipes make movement slightly tricky. Jump on Lemmy's head three times and you'll defeat him.

WENDY O. KOOPA

8 Wendy shares her brilliant plan with the hare-brained Lemmy, substituting the uneven pipes for a second bouncing fireball – so you face a greater threat, but with greater mobility. Jump on her head.

BOWSER

10 One of only two completely unavoidable boss fights in the game, Bowser has various angles of attack. He'll try to ram you with his flying machine, he'll drop fire on you from above, he'll roll giant metal balls at you and he'll lob Mechakoopas at you. The latter are important – to beat him, you need to immobilise them, then lob them upwards and on top of Bowser. After a couple of hits, Peach will give you a mushroom. Then rinse and repeat!

LARRY KOOPA

9 Larry has borrowed that fancy tilting platform from Iggy, and he's hooked up the lava fountain to spit up some nice deadly fireballs too. Give him a nice hot bath.

PAC

PAC-MAN

Craig Grannell talks to Toru Iwatani about how he created the most iconic character in videogames history, devised one of the most enduring and copied game formats, and how he revisited his creation for Xbox 360

With modern-day game characters often being designed and scripted to ape Hollywood movie stars, it's somewhat pleasing to note that a yellow circle with an insatiable appetite for eating pellets remains the most enduring videogaming star to date. After all, which gamer hasn't played some variant of *Pac-Man*? According to a May 2008 report by the Davie Brown Celebrity Index (dbireport.com), which scores celebrities to evaluate potential product spokespeople, *Pac-Man* was recognised by 94 per cent of US consumers, outstripping even *Mario*, which is pretty impressive stuff. *Pac-Man*'s appeal is, ironically, akin to Hollywood heavyweights like Tom Hanks and Will Smith.

Part of this appeal is no doubt down to the fun, peaceful nature of Pac-Man and his actual actions. He explores a simple maze, munching dots, pursued by a quartet of cartoon ghosts. When Pac-Man eats one of the maze's four power pellets, the ghosts turn blue and flee, having suddenly become edible and decidedly non-threatening. However, even when a ghost is consumed, its eyes 'escape', hastily retreating to the central ghost pen, whereupon it's reborn.

» Toru Iwatani with an altogether cuddlier version of Blinky/Akabei, along with similarly soft versions of Pac-Man.

This gentle, good-natured gameplay was no accident, as the game's designer Toru Iwatani explains. "In the late Seventies, videogame arcades, which in Japan we call 'game centres', were just playgrounds for boys, and the only videogames on offer were brutal affairs involving the killing of aliens," he remembers. "My aim was to come up with a game that had an endearing charm, was easy to play, involved lots of light-hearted fun, and that women and couples could enjoy."

Iwatani started thinking about videogame ideas in which the key word was the verb 'eat'. And, yes, the pizza rumour is largely true – suitably, while at a lunch, a fast-food favourite forever changed the course of gaming history. "With 'eat' established as the key word, a shape caught my eye," recalls Iwatani. "I had ordered a round pizza, and it was missing a piece." In a 'eureka' moment, Iwatani says, "the shape of what is now Pac-Man flashed through my mind."

IN THE KNOW

- **PUBLISHER:** NAMCO/MIDWAY
- **DEVELOPER:** NAMCO
- **RELEASED:** 1980
- **FEATURED PLATFORM:** PAC-MAN: ARCADE (WHICH WAS SUBSEQUENTLY CONVERTED TO VARIOUS HOME SYSTEMS)
- **GENRE:** ARCADE
- **EXPECT TO PAY:** £400+ FOR A CABINET, 50P+ FOR HOME CONVERSIONS

Hack-Man

With its efficient, simple gameplay and aesthetics, *Pac-Man* was popular fodder for the hacking brigade. Basic hacks involved minor gameplay tweaks, such as speeding things up, while slightly less basic hacks messed about with the maze, graphics and sound, adding to the original game's pristine polish a veneer of sticky and semi-random digital jam. The hideous *Joyman*, with its ghastly audio and broken maze layout, most notably kicked *Pac-Man* in the head with all the subtlety of a size-ten boot.

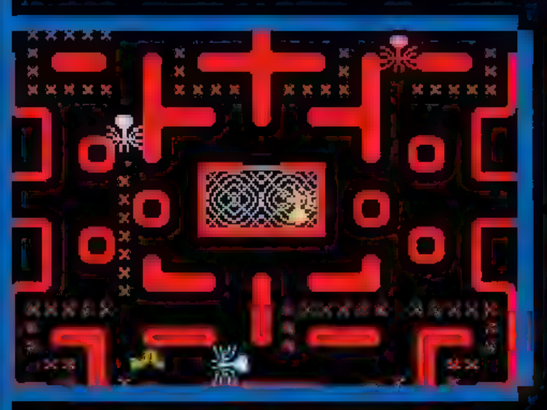
The most effective hacks are those that respect the original formula – *Hangly-Man*'s amended mazes – but GL's *Piranha* is an exception. Removing the maze and shifting the setting to a claustrophobic underwater cavern – the eponymous piranha pursued by ravenous octopuses – gives the game an edge in terms of focus and originality that other hacks typically lack.

Even in those early gaming days, videogame characters had a little detail, but Pac-Man was forever destined in his first incarnation to remain a yellow disc with a basic mouth, like an incredibly simplified version of Iwatani's lunch. He notes that some suggested at the time that other components should be added, such as eyes, but then there would be no end to the additions. It seems keeping things simple paid off in spades. "As design concepts, both Pac-Man and the ghosts have a simplicity and endearing charm," Iwatani says of his decision to keep the graphic design streamlined, also suggesting that the visuals of the game helped it appeal to female gamers of the day.

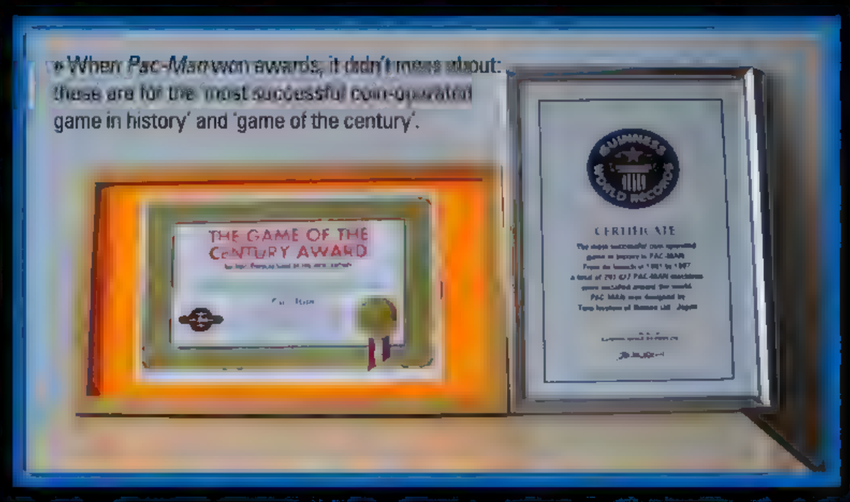
The elegant clarity of the character design also influenced the game itself. The food for Pac-Man to eat was initially strewn all over the screen, but Iwatani was keen to ensure gamers would immediately know what to do. "I wanted to simplify gameplay operation, and so the idea occurred to me of constructing a maze in which movement was restricted to the four basic directions – up and down, left and right," he says. With this structure in place, the game's objective became more obvious, and the lead character soon gained his moniker, 'Pakku Man', based on Japanese slang 'paku-paku', which describes the sound of the mouth while eating. (The original game's title subsequently became *Puck Man*. The US publisher, Midway, renamed it *Pac-Man* to stop wily hoodlums amending the 'p' in 'puck' to an 'f'.)

With the game's basic content dealt with, Iwatani realised it wasn't yet much fun, and so enemies were added to the mix, providing tension and excitement, and making it a challenge for players to grab food from the maze. Unusually for the time, Iwatani not only developed rudimentary artificial intelligence for the ghosts, but ensured each one had its own personality of sorts, due to moving and attacking Pac-Man in its own way. "The adversarial TV cartoon *Tom And Jerry* helped shape the relationship between Pac-Man and the ghosts," recalls Iwatani. "Had the programming been such that the four ghosts constantly attacked Pac-Man's present location according to the same algorithm, the ghosts would look like a string of beads. Where's the thrill in that? So I introduced AI-type algorithms that had the ghosts coming at Pac-Man from all directions."

And so we were introduced to Blinky, Pinky, Inky and Clyde (Akabei, Pinky, Aosuke and Guzuta in the original Japanese release). According to Iwatani, the ghosts attack in waves, before dispersing and attacking again, which gives the player some regular breathing space and appears more organic than the kind of incessant attacks that had plagued earlier arcade games like *Space Invaders*. (Over time, these waves are harder to identify, and the ghost attacks become swift and relentless, somewhat contradicting Iwatani's desire for a non-stressful game, but providing a necessary long-term challenge for seasoned players.) Although gamers often disagree with exactly how the algorithms work in practice, Iwatani has in the past stated that



> "I designed the game so players of any age and either sex could play it straight away, without reading a game manual"
>
> TORU IWATANI



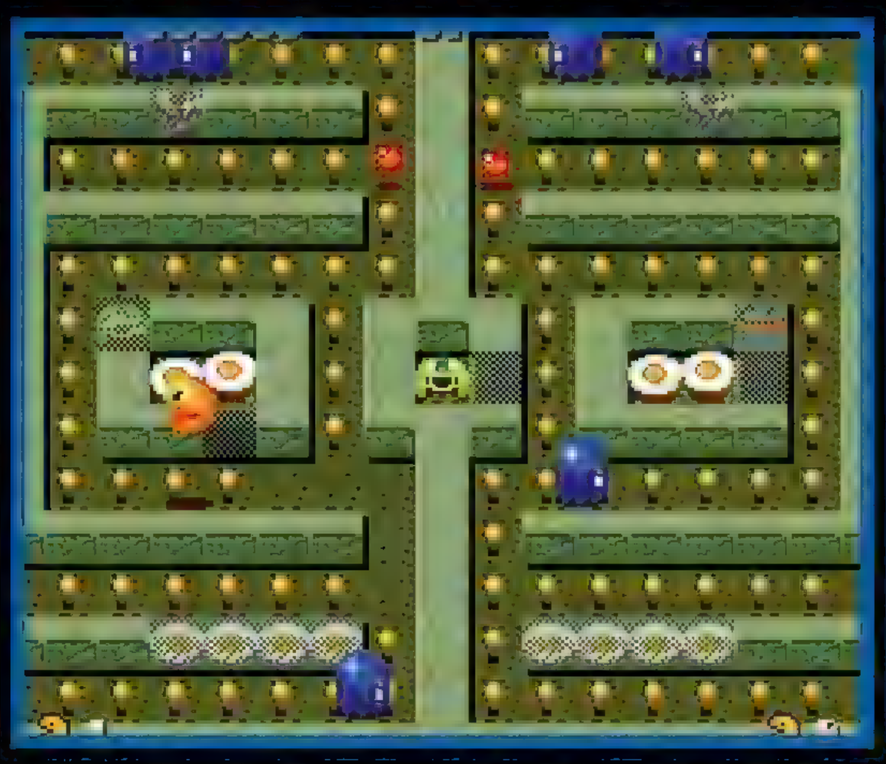
Blinky is designed to chase Pac-Man, but that Pinky's goal is to aim just in front of Pac-Man, hence why the two often seem to 'sandwich' the hero. The movement of Inky and Clyde is more random, the end result being that Pac-Man is pursued in a natural way, rather than in a robotic, pre-defined manner, which makes everything in the game feel that much more realistic.

The attacks aren't entirely one-sided, however; as noted earlier, the maze contains four very useful power pellets, which temporarily transform the ghosts into a 'scared' blue form, enabling Pac-Man to turn the tables, hunt and eat them. "The inspiration for the power pellet was the spinach in the TV cartoon Popeye," explains Iwatani. "The power pellets didn't exist in the planning stages at all – they emerged during the development stage as a feature for turning the game around, and made the game vastly more interesting."

Although the completed *Pac-Man* ended up shipping well over quarter of a million units, Iwatani notes that the game's impact wasn't immediate: "In Japan, the game met with a lukewarm reception at first, but it then proved to be a long seller over several years." Amusingly, its success in the USA also took people by surprise, with 'experts' of the time judging *Rally-X* to be 1980's game to watch. However, Iwatani's ability to attract all kinds of gamers, rather than just teenagers keen on blowing up aliens, hit home. "Overseas, it was a massive hit – people who normally didn't play videogames became avid fans, and there was much media coverage of the playing of *Pac-Man*," he recalls.

The game has also stood the test of time, being converted to myriad platforms, and it regularly appears on compilations and various online services to this day. "I designed the game so that players of any age and either sex could play it straight away, without reading a game manual," says Iwatani of his creation's enduring popularity. "The game also contains numerous detailed stratagems for reading the players' psychology."

Perhaps unsurprisingly, Iwatani claims he'd not revise his game in any way. "At the design stage, there was a 'shutter' feature, which opened and closed, acting as an obstacle in the path of the maze," he says. "But I'd change nothing from the final game. Why? Because *Pac-Man* is complete to such an extent that to add or to subtract anything at all would be unacceptable."



» Semicon's mid-Nineties *Hyper Pacman* provides an almost *Bomberman*-like take on *Pac-Man*, throwing strange boss fights into the mix.

CONVERSION CAPERS

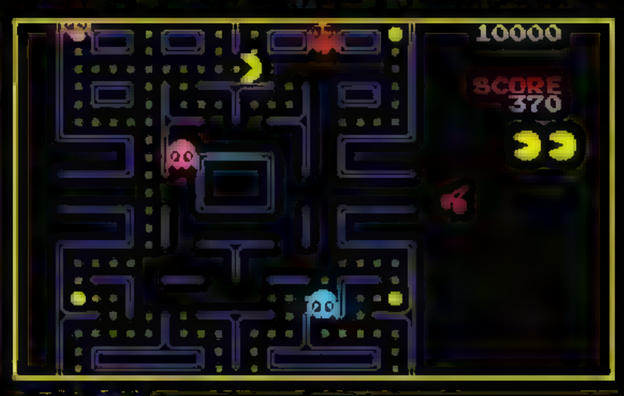
With myriad Pac-Man conversions available, we look at the most curious examples

Atari 2600

Embarrassingly drawing attention to itself via an 'Atari National *Pac-Man* Day', this conversion supposedly resulted from marketing pressure. A flickering mess, the game's dreadful maze layout and ropey gameplay led to a shortfall in sales, with five million cartridges left gathering dust.

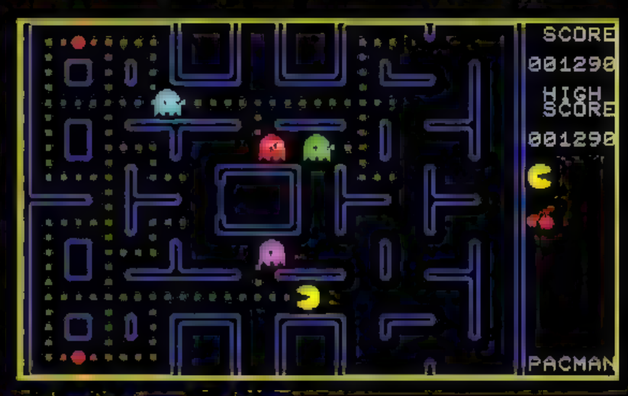
VIC-20

While most VIC-20 owners had Atarisoft's dire conversion, Japanese Commodore fans were enjoying HAL Laboratories' superior take on *Pac-Man*. Commodore renamed the game *Jelly Monsters* outside of Japan, but fell foul of Atari's legal hammer of doom, and withdrew the game.



MSX

Namco's 1984 MSX release eschewed the horizontally stretched mazes of most home conversions, instead shifting the score display to the side of a smaller maze that retained the arcade parent's aspect ratio. This device remains in use today – eg: in *Pac-Man* plug-and-play TV games.



Fujitsu FM-7

Instead of following the MSX conversion's method of dealing with varying aspect ratios between arcade and home screens, 1984's Japanese FM-7 *Pac-Man* release rotates the maze by 90 degrees. This means no stretched maze and no weeny graphics, but the change disorientates.

Game Boy Advance

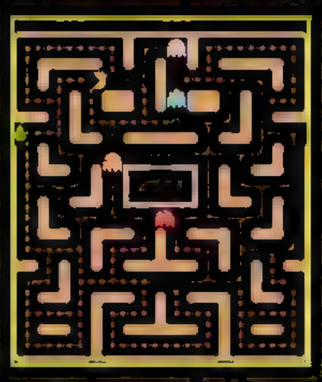
A touch of the crazies descended over Nintendo HQ when the NES Classics line reached Europe. With collectable boxes ditched and prices raised, you got a botched port of the bog-standard NES conversion for more than the superior *Pac-Man Collection* cost at the time. Nice.

iPhone

The *Pac-Man* conversion for Apple's handheld is mostly unremarkable and accurate, but the lack of tactile controls results in curious control methods: 'swiping', an on-screen D-pad, and tilting to move Pac-Man. Swiping works best; directions are confirmed via an on-screen joystick.

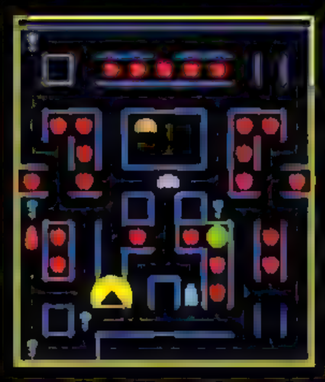
PAC-MAN MILESTONES

A brief overview of notable arcade-based



Ms Pac-Man (1981)

Fed up waiting for Namco's *Pac-Man* sequel, US distributor Midway struck a blow for gender equality by releasing GCC's *Pac-Man* hack. Along with speeding up the game and amending the hero, *Ms Pac-Man* includes new mazes, more varied ghost behaviour and moving fruit.



Super Pac-Man (1982)

Namco's *Pac-Man* sequel disappointed many outside of Japan, due to the fact that the gameplay was substantially altered. You still clear mazes, but munch targets behind gates that open when keys are guzzled. A 'super power dot' makes Pac-Man grow Hulk-like, to devour everything in his path.

Jr. Pac-Man (1983)

Midway again did the naughty, creating this effort without permission, and Namco terminated Midway's licensing agreement. Namco still doesn't recognise the game as official. With its scrolling levels obliterating the original's tightly honed strategic gameplay, it's easy to see why.

» UA rampaging *Pac-Man* on level one devours a ghost before laying eyes on the cherries. Meanwhile, a resurrected Pinky sets out for revenge.

» *Pac-Man Arrangement*, released in 1996 as part of *Namco Classics Collection Vol.2*, is a successful *Pac-Man* update, with pretty graphics and interesting new features.

DEVELOPER HIGHLIGHTS

- **LIBBLERABBLE!** (PICTURED)
  SYSTEM: ARCADE
  YEAR: 1983
- **PAC-LAND**
  SYSTEM: ARCADE
  YEAR: 1984
- **RIDGE RACER**
  SYSTEM: ARCADE
  YEAR: 1993

Despite having worked on a rwide ange of classic titles over the years, including the excellent *Time Crisis* and Namco's classic racing game, *Ridge Racer*, it's clear Iwatani's heart always remained with his disc-based creation. During the Eighties, he was involved in both *Pac-Land* and *Pac-Mania*, with the former being his favourite. "It pioneered action videogames in which the scene flows horizontally. According to its creator, Shigeru Miyamoto, Nintendo's *Super Mario Bros.* was influenced by *Pac-Land*," he says, proudly.

However, it was during 2006 that Iwatani finally got the chance to both return to *Pac-Man*'s roots and design an engaging, modern-day evolution of his original creation. Interestingly, instead of releasing the game in the arcades, the chosen platform was Xbox Live Arcade, and the game became *Pac-Man Championship Edition* (*PMCE*).

"The time was right for a next-generation *Pac-Man*, because the Xbox Live Arcade environment supports real-time competition with score-ranking via the internet, and improved design through its hardware specification," explains Iwatani about the origins of *PMCE*. "My aim with the game was to achieve legitimate evolution, with simplicity of game design and absence of the superfluous as my guiding principles, because, in my opinion, few players look for complexity in gameplay."

Guided by the same ground rules that defined *Pac-Man* – immediacy, simplicity, immunity to language and cultural differences, and "that sense of wanting to play and have fun, which is what the world's videogame players are looking for" – *Pac-Man Championship Edition* broadly retains the original's core gameplay, tasking the player with navigating a maze to eat dots, fruit and power pellets and avoiding roaming ghosts. However, some major changes were made to the formula, in order to keep the game relevant and ensure it was more than just the original game reskinned.

Rather than the player having to simply clear a maze in order to proceed, *Pac-Man Championship Edition* plays like a time-attack game, and the player has a strict time limit in which to score as many points as possible. As with *Pac-Man*, this is done by consuming dots and 'scared' ghosts, but the longer you stay alive, the more each dot is worth (and the faster the game becomes). Also, the maze is now split in half (which initially takes a little while to get used to). Clear one half of dots and bonus fruit appears in the other; eat said fruit and new dots are spawned in the previously cleared half. "The horizontal maze came about due to the prevalence of widescreen displays," explains Iwatani, noting that the split-maze device also creates non-stop action, unlike the original *Pac-Man*, which 'interrupts' players upon a level's completion. "And the timeout feature increases the sense of speed and excitement in the game, making it a very thrilling experience. Also, score ranking via the internet provides competition, which has been a great success." Iwatani adds that one of the key aims was to have people worldwide competing, the logical modern-day equivalent of Eighties' high-score table on the original *Pac-Man*.

Perhaps ironically, *PMCE* was, unlike *Pac-Man*, critically acclaimed right from the start. 1UP.com ranked it alongside

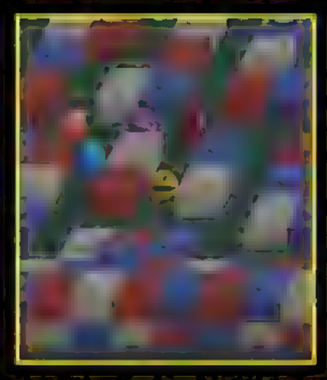
Pac-Man follow-ups

Pac & Pal (1983)

Here, Namco again moved further from the original *Pac-Man*. Ghosts can only be stunned rather than eaten, and now flipping cards opens gates to reveal items. The 'Pal' of the title is the infuriating Miru, who makes off with your bonus items, taking them to the inaccessible ghost pen.

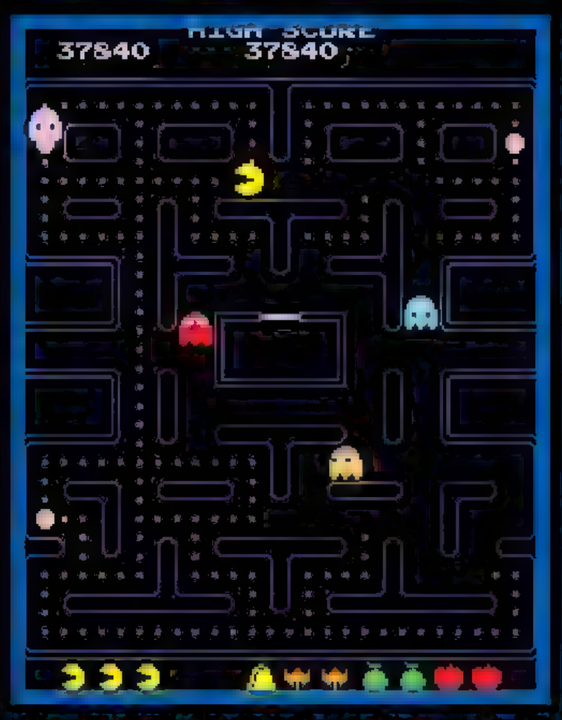
Pac-Land (1984)

Pac-Man finally left the maze, gained legs, arms and a face, and was tasked with battling through this early side-scrolling arcade game, its levels peppered with *Pac-Man* imagery. Although repetitious, the game is initially fun and it's more successful than Namco's previous two efforts.

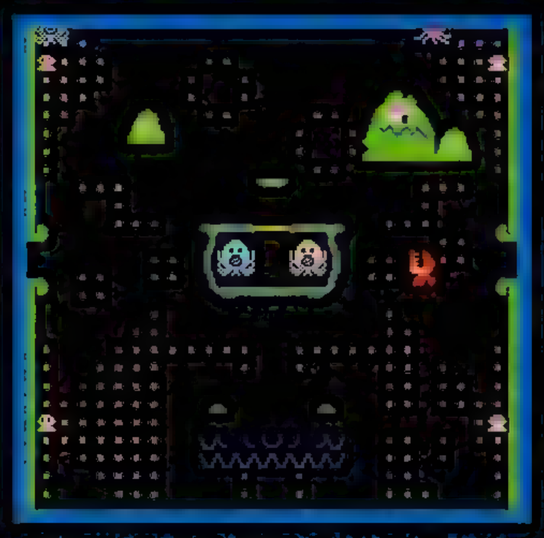


Pac-Mania (1987)

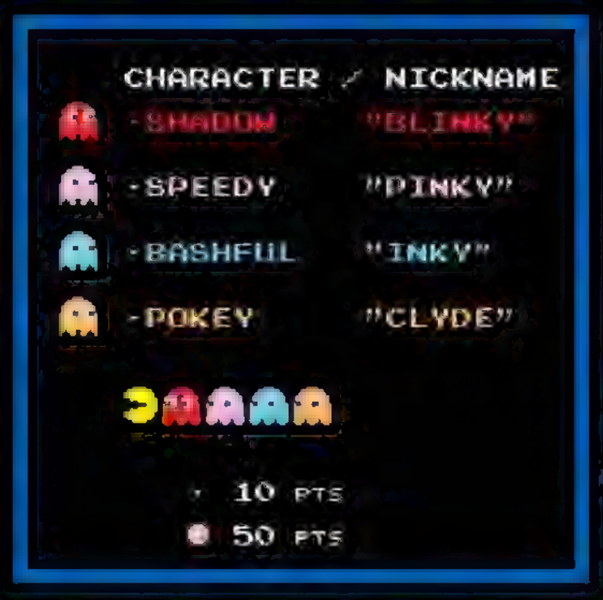
Pac-Man finally returned to his roots in *Pac-Mania*, although as you can see his surroundings are markedly different. The isometric maze scrolls, and the ghosts tend to roam in packs. Although, in Pac-Man's favour, he can now jump and he occasionally finds bonus items that speed him up.



» Several levels in and the ghosts become faster – you barely have time to eat them after consuming a power pellet.



» *Piranha* is a decent *Pac-Man* hack, removing the maze and thereby creating a different and tougher game.



With grateful thanks to Tetsuya Hayashi for invaluable assistance in realising this interview.

> "Pac-Man's guiding principle is 'fun first'" TORU IWATANI

Geometry Wars in terms of a classic game format being reworked, noting that it was "a lot more than just a tarted-up *Pac-Man*." Joystiq's Jared Rea blogged: "A better name for it would have been *Pac-Man 2*, [...] a name that gets the point across that *Pac-Man Championship Edition* is the first true sequel to the game since *Ms Pac-Man*."

Iwatani modestly suggests that some of the acclaim might be due to low expectations for a *Pac-Man* game, and says the response of game players exceeded his expectations, citing the many internet-based critiques that offered "splendidly glowing evaluations". (Happily, and despite claims to the contrary, Iwatani also assures us that *PMCE* is not necessarily to be his swansong, since he continues to be involved in videogame production. So, take that, internet rumour mill!)

With 30 years of experience in videogames design, including the most iconic games character of them all, Iwatani is now, perhaps suitably, involved in teaching aspects of videogames design to students at Tokyo Polytechnic University, along with conducting research into games for social purposes. Although *Pac-Man* has always remained popular throughout the years, we wondered what Iwatani made of the games industry's tendency towards over-complication and movie-like games, along with the relatively recent resurgence in retro-orientated titles. "We should carefully gauge the preferences of light users, who normally don't play videogames, and the preferences of videogame aficionados, and then design products to suit each," he suggests, thoughtfully. "A sumptuous party dress may be of limited practical value in daily living, and the same applies to over-elaborate videogames in the videogame market." On retro titles – 'pick up and play' games popularised by the internet, XBLA, Nintendo DS, Wii and iPhone – Iwatani thinks this might be a sign that the actual game, rather than aesthetics, is again becoming the main concern for developers: "Hardware specifications 20 or 30 years ago restricted powers of expression, and so the rules of the game were decisive in attracting users. The current boom in retro games is evidence of a universal fascination with game-playing itself."

We finish off the interview by returning to Iwatani's original *Pac-Man*. We were keen to know how it must feel to be the designer behind a game that almost everyone knows – one that perhaps only *Tetris* can challenge in terms of sheer widespread appeal? "People view the work in different ways, from different viewpoints. Some see it as being broad and shallow. For others, it is narrow yet deep and praised," considers Iwatani. "What is gratifying about this is that people find such different reasons for loving it."

And as a final word, Iwatani reckons that there are still things his 28-year-old creation can teach modern-day games designers, developers and publishers. "*Pac-Man* is the perfect videogame because its design gives top priority to the player and to a spirit of service," he concludes. "Its guiding principle is 'fun first'. This concept is in my view invincible and what I look for in the videogame creators of today, that they understand the importance of capturing people's hearts."

100 GAMES TO PLAY BEFORE YOU DIE

DEFENDER

One of the most ruthless blasters to hit arcades, Defender is the sort of game that puts hairs on your chest (even if you're a girlie). Eugene Jarvis chats to Craig Grannell about the title that started him off, detailing Defender's rise from a wannabe Space Invaders clone to the iconic game we know today

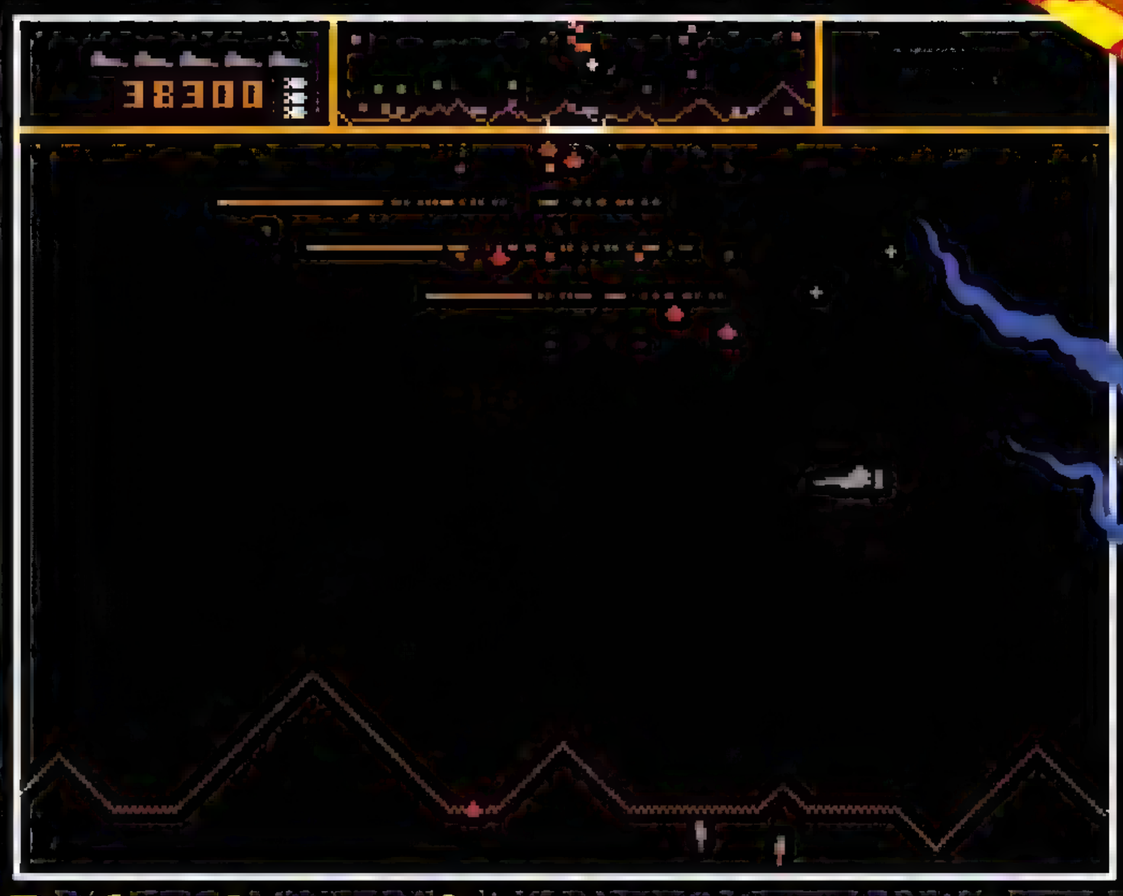
It's hard to imagine a time when every game – no matter how simple the concept – felt fresh and new. But it once existed. Take, for example, *Defender*, designed by gaming legend Eugene Jarvis. For the uninitiated (and if you're one such person, are you sure you're reading the right magazine?), *Defender* is a wraparound side-scrolling shooter, with a small cast of deviously designed enemies, and a defend-and-rescue theme. The aim is to stop Lander aliens making off with your small crop of humans, carelessly exposing themselves on the stark planet's surface. When a Lander snags a human, it rises to the top of the screen, consumes it, becomes a crazed Mutant, and comes after you. Lose all your guys and the planet explodes, driving the point home that you're rubbish and that *Defender* is one tough cookie.

In these enlightened times, we've seen hundreds of side-scrolling shooters, but when *Defender* appeared, it was so revolutionary, so different, and had such complex controls that many assumed it would flop. But eventual strong sales and many sequels and remakes (see Stuart Campbell's The Definitive Defender in issue 29 for an overview) subsequently confirmed its legacy.

However, it's the original *Defender* that excites gamers most, with its mix of relentless, ruthless enemies, fine-tuned controls and on-a-knife-edge gameplay. What its fans perhaps don't realise is that *Defender* wasn't as original as it seemed at the time, and it evolved from an early game mash-up. "I was strongly influenced by *Space Invaders* and *Asteroids*, and thought we'd put the two together and create an even greater game," laughs designer Eugene Jarvis, amused by the naivety of his younger self. "But the practical realisation of that was a real pain in the ass…"

First, hardware considerations caused problems. "Back then, games were black and white, with plastic transparent overlays for colouring different screen elements," he says. "So we thought, 'What's the future here?' We decided four colours would be enough, but we wanted this system to be for the future, so we did 16. I mean, who would ever need more than that? Sixteen colours was way more than would ever be utilised in a game."

Resolution was boosted from the industry norm of 256x256 to 320x256, because "screens are wider than



» Lacking the grunt of its arcade parent, the flicker-fest that is the Atari 2600 version replaces the pixel-line landscape with skyscrapers.

they are tall, so this gave us a better aspect ratio and the potential for a better-looking game". Also, due to the team "not really knowing anything about hardware", the decision was made to utilise a system that moved objects in software rather than hardware – commonplace today, but rare at the time. "The computer had to write the pixels to the screen for every object, which was costly, meaning we couldn't put much on the screen," explains Eugene. This fact alone drove various design considerations for *Defender*.

We ask Eugene how *Defender*'s gameplay came to be, and he notes how games were so simple in that era that you could throw a concept up on the screen in a couple of weeks and play with it. He recalls various concepts were trialled, with the first basically being a *Space Invaders* rip-off. "You moved a little missile base, but instead of just shooting upwards, you had buttons to shoot diagonally! We thought this was going to be the greatest thing ever, but after a week or two we figured out that it wasn't much fun [laughs]."

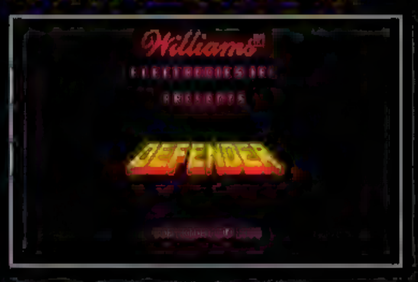
"The original Defender excites gamers most, with its mix of ruthless enemies, fine-tuned controls and on-a-knife-edge gameplay"

For the next iteration, *Asteroids* was wheeled out. Unfortunately, Eugene's hardware was raster-based, hampering the graphics. "We wanted to have an *Asteroids*-type ship that would rotate, but it looked rubbish, because you'd rotate it and the pixels were all jaggy," recalls Eugene. "So we thought we'd make it round 'cause if it's round and you rotated it, nothing could go wrong."

Unfortunately, this cunning plan didn't lead to the mega-game the team hoped for. "We had this cursor that moved around and showed where you were going to shoot. We fooled around with this for a few days before figuring that it sucked," says Eugene. "We realised *Asteroids* without the vectors and spinning thing was just a bad version of *Asteroids*..."

The team also recognised that the main problem was that many of their ideas were simply too derivative. After a brainstorming session, the team decided one of the coolest aspects of playing *Asteroids* was flying off one side of the screen and appearing on the other – the wraparound effect. "We thought you could have a game where you'd fly off the screen, but it would kind of scroll, and you'd keep flying into a bigger universe," remembers Eugene. "That might seem obvious now, but most games in that era were on one screen, and so we thought it'd be very exciting to fly into a larger world."

IN THE KNOW



» **PUBLISHER:** WILLIAMS ELECTRONICS

» **DEVELOPER:** WILLIAMS ELECTRONICS

» **RELEASED:** 1980

» **PLATFORMS:** ARCADE; LATER CONVERTED TO VARIOUS HOME SYSTEMS

» **GENRE:** SHOOT-'EM-UP

» **EXPECT TO PAY:** £500+ FOR A WORKING CABINET

» Dull clones like *Annihilator* lack the defence and rescue components of *Defender*.

» A young Eugene Jarvis shows off his natty *Stargate* T-shirt.

» Judging by the landscape, you may well be defending a sparse Egypt. At least there aren't any to...

» Strangely, the best home conversion wasn't official – it was *Planetoid*, a clone for the BBC Micro, which aped the arcade game's brutality, controls and special effects.

» Pausing momentarily to admire the beautiful particle effects, the pilot suddenly realised two Mutants were about to get him.

THE CAST OF DEFENDER

Your ship: It can fly through the ground and catch falling humans, but one hit from a hostile and it will explode.

Humanoid: Ten humanoids litter the landscape, awaiting capture by Landers. They're annoyingly unarmed and blasé about the whole thing.

Lander: Landers teleport in and descend on humanoids. If they capture one and reach the top of the screen, they fuse to form a Mutant.

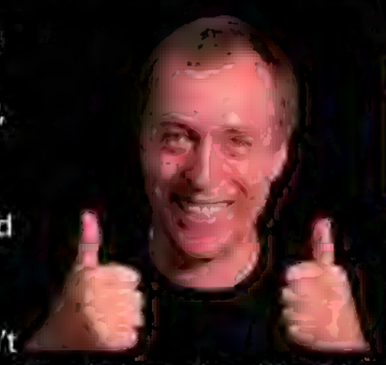
Mutant: These creatures move erratically and home in on your ship, firing projectiles.

Baiter: The speedy aliens home in on you with speed and accuracy if you hang around a level for too long.

Bomber: This cube-like alien lays stationary mines that float in the air.

Pod/Swarmers: When shot, the sluggish star-like Pods burst into packs of tiny Swarmers, which fire projectiles and move in an oscillating fashion.

Eugene's game had the initial spark it needed. The decision was made to fly horizontally only, to avoid the rotational problems of raster graphics, and then to take *Space Invaders* and flip it on its side. "You moved your ship up and down with the *Space Invaders*-type control as you flew sideways, and that provided the impetus for the layout – the basic geometric formation of *Defender*," says Eugene. "We then threw some stuff out there. Originally, there were supposed to be *Asteroids* rocks – you'd shoot the rocks and they'd make little rocks. Horizontally scrolling *Asteroids*. And that wasn't much fun. It was like: Man, this idea of making a videogame is a real pain in the ass [laughs]." By this point, the team had spent six months working on the project, and, in Eugene's words, it still sucked, but it was fun flying around the landscape. Eugene's friend Steve Ritchie, working at Williams on acclaimed pinball titles, suggested the player should be able to fly in both directions, an idea that was duly implemented. "But there still wasn't any real game there, and so we had to get back to the basics of what makes a cool game," says Eugene. "In that era, games were really about survival, which is certainly the most powerful human instinct."



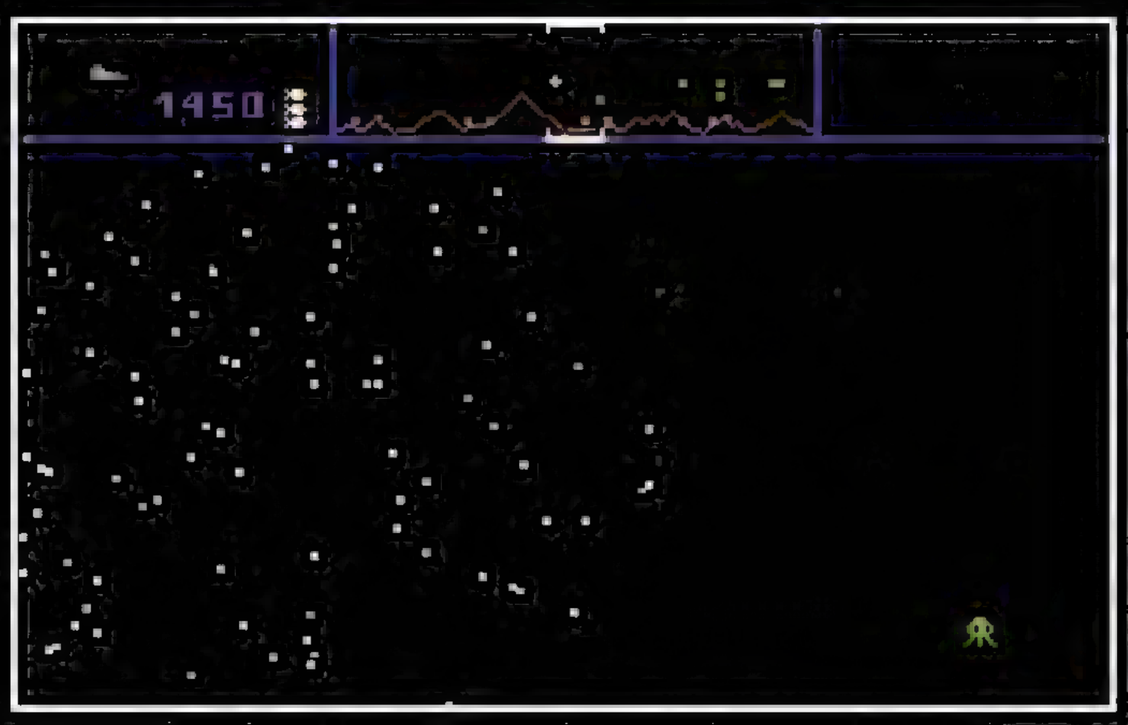
» Eugene Jarvis proves he could happily have worked for *Zzap!64* during the Eighties.

Eugene realised the player needed a suitable threat: "You can't have a world where nothing's wrong – there's no challenge, no threat, no bad guy. In *Space Invaders*, you had the invaders – they came down, dropped bombs and killed you – they were mean. We needed some enemies..."

Somewhere along the line, the game received its moniker, *Defender*, and although the reasons for this are largely lost, Eugene reckons it was influenced by the idea that if you want to commit a lot of violence, you need to be justified

» Even the more playable home ports, such as the depicted C64 release, lacked the arcade game's speed and effects.

» Presumably those humanoids were holding dead man's switches, because now they're gone the entire planet's blown up.



» Boom! The ship explodes into a ball of particles. Get used to seeing this happen a lot when you first play *Defender*.

» Our hero flies low to blow up a cluster of Swarmers, no doubt causing a 'friendly fire' incident at the same time.

in doing so by defending something. This way of thinking led to the team's next major breakthrough. "We knew we needed to make the game more complex and interesting, and so we added friendlies that weren't you," says Eugene. "This added depth to the play mechanic, because you weren't just blindly shooting everything in sight, which gets monotonous – just killing, killing, killing, like manning a fire hose."

Now, there was something to defend. A planet was added, depicted as a line of pixels, due to hardware limitations – "Maybe half the real-time was dedicated to just writing this little line on the screen," says Eugene – and the Lander was introduced as the first bad guy. "All of a sudden, the game got interesting: you had a purpose, you were trying to protect these guys, and you had an enemy," remarks Eugene. "But it still wasn't that exciting."

Although modern games are regularly criticised for placing style over substance, Eugene reckons it was the visual effects implemented by Sam Dicker, an 18-year-old self-taught programmer, that suddenly lifted *Defender* to a whole new level: "A lot of the game's excitement comes from the visual effects. Sam's genius was in making these particle effects – at the time, we didn't know the term – whereby an interactive explosion was created upon shooting a bad guy."

With explosions being created algorithmically, they changed depending on where bullets hit the Landers, resulting in a visual feast of on-screen fireworks. This was in marked contrast to the more typical canned 'blam frame' most games used. "That's so boring, because no matter how and where you kill something, it's always the same," says Eugene, who likens Sam's effects to watching the surf – like waves, each explosion is unique. "It gave *Defender* an otherworldly feel. You'd be mesmerised when shooting three or four Landers at the same time, watching them blow up this way and that, and dancing around in this ballet of destruction."

On a roll, the team took things further. Landers started grabbing humans, taking them to the top of the screen, consuming them and turning into psycho Mutants that homed in on your craft with alarming speed and accuracy. Although this made things tougher for the player, the mechanic of capture added a rescue element to the game. "After a Lander captures a human, you have this chance to get around the world, shoot it and save the man," says Eugene.

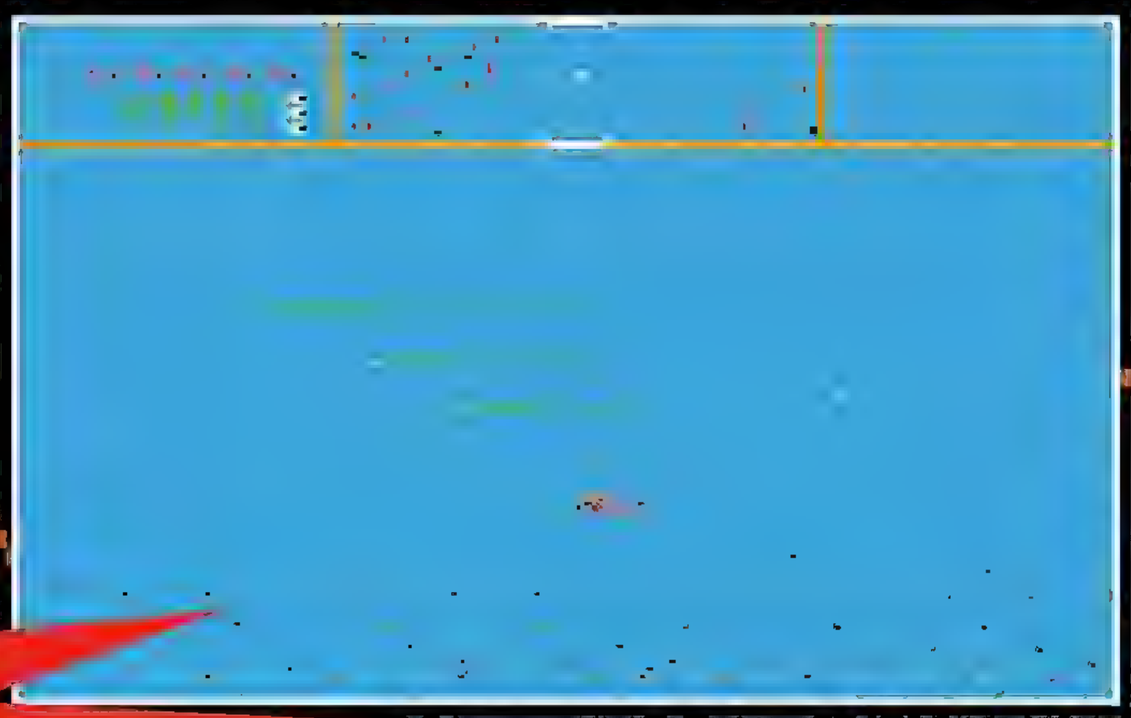
This shift from shooting to defending to rescue aligned with Eugene's philosophy that the best games are those that enable you to make a comeback, rather than merely offering an "inexorable downward slope towards your inevitable death". This idea of redemption after screwing up, possibly via some heroic measure, found its way into other areas of the game. When all humans are gone, the planet explodes, leaving you surrounded by hostile Mutants, but every five rounds, the humans and planet are restored. "A player needs a chance to make a comeback," says Eugene. "Life is like that – ups and downs – and this cyclical feel makes a game more interesting, and ensures it's never hopeless. That feeling a gambler has, knowing there's always a

DEVELOPER HIGHLIGHTS

NARC (PICTURED)
SYSTEM: ARCADE
YEAR: 1988

SMASH TV
SYSTEM: ARCADE
YEAR: 1990

CRUIS'N USA
SYSTEM: ARCADE
YEAR: 1994



» Landers and Mutants converge on the weary pilot, who really wishes he'd become an accountant.

PUNISHING PLAYERS

"Luckily, I wasn't a great player, otherwise *Defender* could have been really hard," jokes Eugene about his game's notorious difficulty level. "It was part of that era to completely humiliate a player and grab their money, creating this anger where they'd want to put their foot through the glass, but then decide they were going to beat the game."

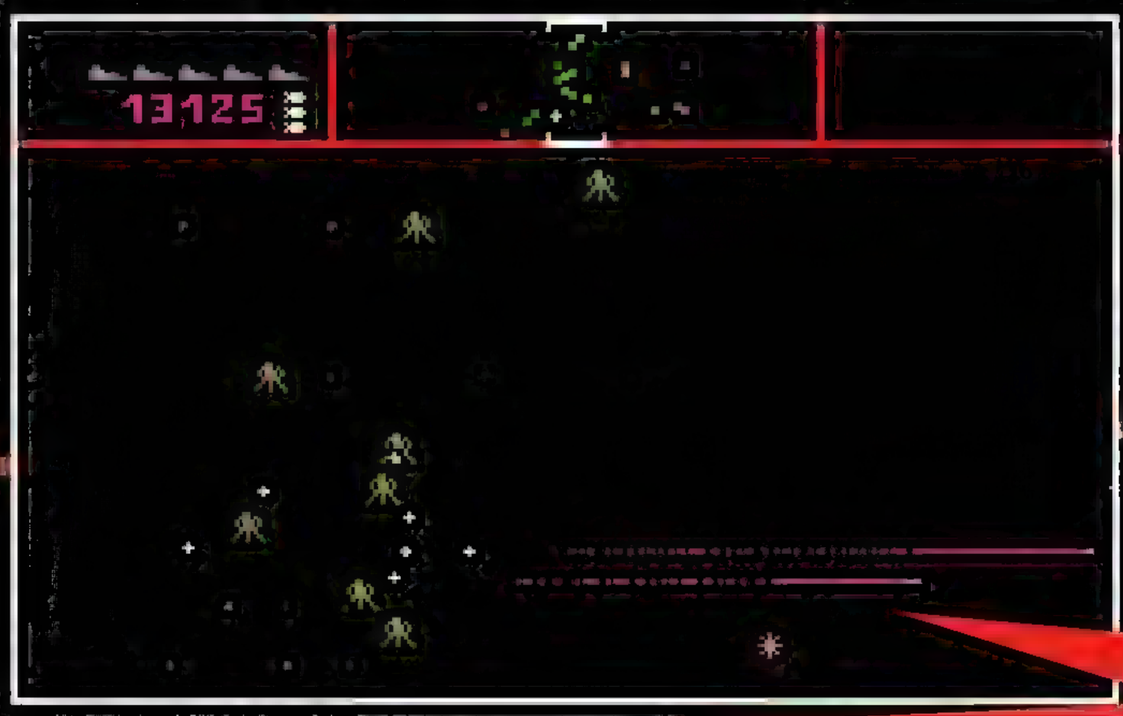
According to Eugene, the controls were the main obstacle for most: "It was so new, and no one had really done a game where you flew horizontally through multiple screens. Many thought they were playing sideways *Space Invaders*."

But Eugene admits it was perhaps too tough: "When you're designing a game, you get a warped sense of the ability of the average player. You assume because you're fairly good, you should make it harder. Games designers often err in making games too hard, but luckily in that era people saw it as a challenge to try to conquer a tough game."

chance of hitting the jackpot with his last dollar – that's what keeps you going."

Because, in Eugene's words, "you get tired of shooting the same thing after a while", the Landers were joined by some allies. First came the Bombers, aliens that lay stationary mines in the air. "It's interesting how the laws of physics are malleable in *Defender* – men fall to their deaths, mines float, and the ship can fly through the ground," says Eugene. "But this supports the gameplay by being flexible, instead of imposing a rigid set of mechanics that would have resulted in a sterile and restrictive game."Subsequent enemies were designed to create new elements of play. Pods and Swarmers have different patterns of flight to Landers and come after you, rather than ground-based humans. Baiters, a hostile alien that can't be outpaced, were a reincarnation of the *Asteroids* saucer, designed to stop players lingering on a level. "They're a challenging enemy, and really great players can sit there and challenge them forever," says Eugene. "It's maddening for less-skilled players, but it added another element and created that time pressure, which was a big thing then – putting the player into a vice and slowly tightening it, ramping up the intensity." Along with offering new gaming experiences on the screen, *Defender* provided unique controls, which often seem alien to modern gamers. Eschewing a four-way joystick, *Defender* uses a *Space Invaders*-like control to move the ship up and down, but buttons for forward thrust and reversing direction. "*Defender* was maybe the first side-scrolling shooter game, and it was based on playing *Space Invaders* with your left hand and *Asteroids* with your right," explains Eugene. "It was amazing how once you'd played *Asteroids*, you had to use the same buttons – players were programmed where thrust was on the left and fire was on the right." Eugene compares the thinking behind *Defender*'s controls to designing cars, saying there's always a language to controls found in the past. In the same way an Eighties Ford wouldn't suddenly switch the brake and accelerator, Eugene wasn't about to make things difficult for players. However, he does admit that the original feeling was to put a four-way joystick on the left hand. "The thing is, a four-way directional controller was a new idea in arcades at the time, and we couldn't find a reliable mechanism," he says. "So we threw in a button to reverse, and it actually feels better to me. When playing *Defender* on a console with a four-way joystick, it doesn't feel right. There's something about the reverse button – you can just slide across the screen, and you get more control… And it was also very cost-effective."

Although the controls and difficulty caused *Defender* to initially be dismissed as too complex, it eventually sold over sixty thousand units, and is one of a handful of truly iconic arcade games. "I think *Defender* has longevity because there's so much randomness," says Eugene. "Every spaceship has its own little brain from a sequence of random numbers and a small amount of intelligence, and so each game is different. Ships come



» Lesson one in why letting the planet blow up is bad: hordes of screaming Mutants will kill you.

» The more people mess with the pure original vision for *Defender*, the worse it becomes, as this dreadful Game Boy Advance effort from 2002 confirms.

in different patterns, in different ways and at different times, and shoot at you in different ways. This, along with the physics-driven explosions, keeps the game fresh." He also notes that *Defender* offers a mix of adversaries, each with their own agenda and dynamics, along with different playing modes. "When the planet blows up, everything is a Mutant and the gameplay is almost completely different," he says. "And then there's the progression of difficulty, which provides great suspense, but that sense of redemption, where if you can just survive a couple more waves, everything will be okay. Instead of a straight line of progressive difficulty, *Defender* offers a rollercoaster of emotions… Plus, I think there's maybe something about flying at breakneck speed through all this crap exploding left and right, getting a rush from the path of destruction." As the interview draws to a close, we wonder if there's anything else Eugene would like to say about his classic game, and this leads to the subject of bugs, which he considers some of the really interesting aspects of *Defender*, notably the invisible lines that join the wraparound universe. "At that point, the enemy-seeking algorithm doesn't work. If Mutants are chasing you and you cross this invisible line, they'll start running away," he says. "Great players can exploit this, grouping Mutants, making them run away, then making them come back and blasting them all." Other enemies have different invisible lines, and Eugene reckons this created an interesting richness that wasn't programmed. "Enemies suddenly start running away, and you go after them and they then come back after you," he says. "Players anthropomorphise their motivations. You don't want to believe they're just a bunch of random numbers, so you call them 'scared' or 'mad'. To these little robotic creatures whose brains and intelligence are ten lines of computer code, you give human characteristics and moods. Some players are like, 'Man, the Baiters are pissed off today', and on another game, you kill them and it's like, 'They were afraid – I could see the fear in their eyes'." Another aspect of *Defender* was how it always ran on the bloody edge of running out of real-time, and a key design objective was to keep its crisp 60Hz frame rate rolling, ensuring no time-lag and responsive controls. "But if you explode a Pod with Swarmers in, the system momentarily bugs out, and the video gets highest priority," explains Eugene. "The system stops processing collisions, and you can use this to your advantage to fly right through things." He explains that seasoned players often fly round the world at breakneck speed, starving the collision detection of real-time, and appearing to get away with stuff mere mortal gamers can't.

This in many ways recalls what Eugene spoke of earlier – of creating an open system with few parameters and not controlling every eventuality. "This is why people are still interested in *Defender*. When you over-script a game like a control freak, you strangle the life out of it, and it becomes finite," concludes Eugene. "There's no interaction and no life. Even if it's amazing, you've seen it all, and it's the same every time. But the beauty of gaming is constant interaction and doing something meaningful, rather than just playing a video."

STARGATE AKA DEFENDER 2

In 1981, *Defender* got a sequel, *Stargate*, which Eugene refers to as a kind of director's cut. Brutally hard and more complex than *Defender*, *Stargate* split the audience. "With *Stargate*, we threw in a richer mix of enemies, things like warping, and a lot of interesting gameplay," explains Eugene. "But some preferred the purist adrenaline rush of *Defender*."

Eugene is split on the games. "Once you've spent a year playing *Defender*, *Stargate* is interesting, and it's deeper," he says. "We refined the routines, so we could get more out there, and the game didn't bug out so much." However, he admits that upon returning to the games nearly 30 years later, *Defender*'s his favourite: "With *Stargate*, you need to know its idiosyncrasies – it's much more complicated. And after 28 years of braincell loss, *Defender* is kind of like 'just give me the basics.' Plus it may just be the fact that my *Stargate* is broken and my *Defender* works."

» The moment before an untimely death, with our hero surrounded by Mutants, Bombers, Pods and Swarmers.

» The radar at the top of the screen is a great way of keeping track of enemies and surviving humans.

MANIC MINER

Sat at the very desk where it was written, Matthew Smith watches Miner Willy leap through all 20 screens of his Spectrum masterpiece. Paul Drury holds the ashtray and takes notes

CENTRAL CAVERN

"This was the test screen, the first of everything," begins Matt. "The collapsing floors, conveyor belts, the jumps, the colour clash. Using two colours in the bricks of the solid platforms and then when you jump up on to the first platform, that's all testing for colour clash. It has one of all the difficult jumps in, too." How was difficulty determined, we ask. "From the end of the conveyor belt to the higher platform counts as a difficult jump... but I put in a safety net. I plotted it out on graph paper: two pixels and then a parabolic, acceleration down until you hit terminal velocity, at about four pixels a frame, then you started falling straight down. I'd do all the testing and see where you'd land." And what about the clockwork baddie on the conveyor belt? "Oh, just something I'd drawn. There's a bit of Yellow Submarine in him – that's where the mouth in the belly came from. The original sketches I did had water instead of conveyor belts. There were going to be streams of water and I was thinking about making it impossible to go backwards. That would make it more of a puzzle – working out how to get somewhere without going upstream – but by the time I started coding, they'd become conveyor belts."

THE COLD ROOM

Matt stares intently at the 'keys' on this level. "They're snowshoes. Well, tennis rackets." He then starts tapping the screen before we gently remind him it isn't a touchscreen. "Mmm, oh, right. I was just thinking about tweaking a pixel. I'm not sure if it would be better light or dark. I must have tried it both ways back then." Ever the perfectionist. And what about the shuffling birdies? "Everyone knows penguins are fully signed up members of the funny animals union." As Willy slowly descends the 'chimney', Matt chirps up, "For disintegrating platforms, I used the video memory of the Spectrum. It was the first machine I had with a bit mapped screen." We note that the Cold Room level is considerably easier than the previous one. "Oh, I didn't do the screens in order. No, I did the first screen first and then I think I made some attempt to sort the rest out and give a graduated gameplay. That's why the first screen is disproportionately hard, because it wasn't part of that scheme."

THE MENAGERIE

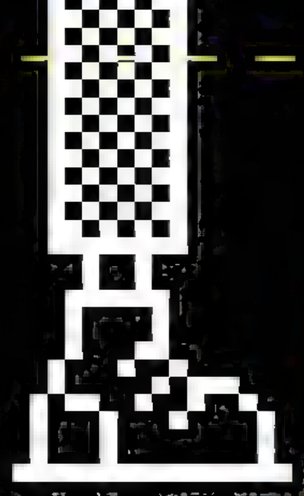
Matt scans the collection of creatures on screen. "Here we've got spiders, emus, well, ducks or something. Yeah, they're flying! Well, their feet are coming off the ground. They're having a go! Hang on; there are only two kinds of animal in there. That's a bit lame. There should be at least three before you call it a menagerie!" Matt's French may be questionable, but we wonder if the birds do signify another sort of love, that of a man for his footy team? "Yeah, you could see it as a tribute to Liverpool FC. They're not far off being liver birds and I'm definitely a red shirt."

ABANDONED URANIUM WORKS

Matt denies this is a comment on the nuclear paranoia of the Eighties, though it did play on a very real fear. "It's a room full of difficult jumps and you have to go across it more than once. It was supposed to be scary, about testing your confidence." He starts to contemplate the nature of death. "Miner Willy is two characters high and if you fall four characters you're dead. Two, you're safe and three... hang on, was two deadly? Oh, I can't remember..." His memory works better when recalling how he coded Willy's famous leap. "The first two frames, you go four and four pixels, that's one whole character, then it's 3, 3, then 2, which makes eight pixels and another whole character. Then 2, 1, 1, 0, 0, -1, -1, -2, -2... it's a smooth curve rounded to the nearest integer." He grins and inhales deeply. And the performing seals? "Oh, I think that was because I had a six pixel rotating ball and thought, how am I going to make this into a character? I know, I'll stick a seal below it!"

EUGENE'S LAIR

So to the memorable snapping bogs of Level 5. "I was telling my little brother Anthony about the toilet monster that reaches up and grabs you. Yeah, he really believed there was a green monster that lived down there," chuckles Matt maliciously. Not a comment on fellow coder Eugene '*Wacky Waiters*' Evans' career going down the pan, then? "I'd met Eugene a few times. We were passing acquaintances. He'd hit the press before me and he played the media darling far more thoroughly than I did. Must have been jealousy, because he was working for the 'other' company, Imagine and I was still aligned with Bug-Byte when I was doing this. And they were buying flash cars first and writing good games second. Actually, I'd have got more trading in a smashed up sports car than I've had from any residuals." Are those gold bars Willy is collecting? "Nah, they're supposed to be stacks of credit cards. I had a choice of putting in a line to show they're stacked."



PROCESSING PLANT

An obvious homage to the arcades of Matt's youth. "Yeah I used to play *Pac-Man* at the Unit 4 cinema in Wallasey." ("Don't look for it, it's not there any more" – *Spinal Tap*, ed). The addition of legs was a feeble attempt to avoid copyright infringement, perhaps? "Oh, I think we were all relying on the American 'Fair Use' provision, though thinking about it, that didn't actually exist in British law at the time. No, there were spare pixels free at the bottom. It had to be ten pixels wide to make it scroll smoothly and because it's round, it's got to be ten high, when everything else is 16, hence the legs." We note the level requires some tricky traversing along platforms with restricted headroom. "Yeah, I was designing routes by this time. I usually tried to get you to go across the screen as many times as possible, which makes things more interesting," cackles the evil genius.

THE VAT

Given Matt's on-off relationship with money over the years, we wonder if this is a reference to the Inland Revenue? "Nah, just a huge block of collapsing floors," he assures us. "Pure aesthetics really and no extra code needed. These collapsing floors were supposed to be one thing and I was seeing what else they could be. That's serendipity, that." And what of the kangaroo connection? He exhales and ponders for a while. "Erm, kangaroo meat? Dog food factory? Dunno... could be... random thoughts." With all the disintegration, it must have been an awkward screen to test? "With The Vat, I had my route and tested it over and over again. I didn't really know if there were any other routes. Some of these levels I've only ever done once, to this day. Same principle with the Banyan Tree in *Jet Set Willy*. There's no random numbers in the game. Every time you go into a level, you get the same start positions and speed, so if I can do it once then it's going to be a bit difficult for the good players." That's something of an understatement, Matt. "Quality control," he winks back.

MINER WILLY MEETS THE KONG BEAST

Another nod to the New Brighton arcades he frequented as a lad. "Barrels, bananas... I should have put hammers in and it would have been a complete tribute to *Donkey Kong*," he notes. It includes some testing jumps – "Yeah, some fives on this," Matt confirms, referring to the width of the gap in characters, "and they had to be pixel perfect." – and the first appearance of switches, though flipping both wasn't obligatory. "Maybe that was a mistake," muses Matt. "Maybe you were supposed to flick it to finish the level and I just completely forgot to test it." Then he has an epiphany. "Ah, no! The only violence in the game is completely optional! That's for if you feel a pathological compulsion to kill the Kong Beast. I think I was just being a hippy..." He adopts a 'Neil from *The Young Ones*' accent, which is not hugely different from his real voice. "You don't have to kill the monkey, man!"

WACKY AMOEBATRONS

"Yeah, a straight horizontal grid, innit," observes Matt of one of the game's more traditional levels. But are those bog brushes on wheels? "Ah, because your collisions with the sprites are pixel perfect, here I was testing what shapes you could clear. Willy was always 16 pixels high, but different widths at different points during a jump. I was testing the limits, so I made it as tall and thin as possible. I think I was going to make it go up and down so you could only jump over it at certain times, but then I worked out that even at the full height a sprite could be, you could still get over it if you timed it right – this was the level where I was finding that out." It's also the first level to undergo a change when *Manic Miner* was re-released through Software Projects. "Yeah, the amoebatrons were originally the Bug-Byte logo, so I changed them when I left. Didn't need any legal advice on that one!"

ENDORIAN FOREST

Those creatures look uncannily like Ewoks, Endor was their home planet and *Return Of The Jedi* was released the same year as *Manic Miner*. Let's take a wild guess and say you were a *Star Wars* fan, Matt. "I was that week! Went to see it, came home and stuck this screen in. Would I be a Jedi or Sith? Oh, Jedi! In fact, I put that on the last census as my religion." At this juncture we suggest a pause to replenish the Guinness and empty the ashtray as we're on screen ten and so halfway. "Nah, this is screen nine," Matt protests. We assure him we've reached double figures. "Oh, sorry. I always start counting from zero." You can't take the hex out of the boy.

ATTACK OF THE MUTANT TELEPHONES

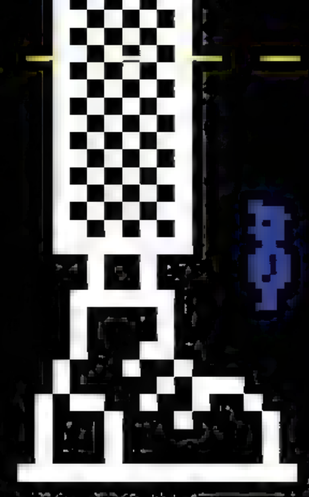
The title is a reference to fellow coder, Jeff Minter. "I met Jeff a few times, when we won Golden Joysticks. We got on alright. Talked about music and stuff." We recall you said you liked this screen during your appearance on Iain Lee's TV documentary *Thumb Candy*. "Those phones are probably my favourite. Do you wanna see a photo of the actual phone they were modelled on? A BT 300 series." Matt goes upstairs but returns empty-handed. Quite a busy screen, this. Was there a limit to the number of enemies you could include? "Yeah, four going up and down and four going left and right. Hang on, I think you could change that to eight going up and down or left and right. I think I did that on certain screens. The Skylab Landing Bay... But yeah, eight was the limit. Due to memory. And speed. There's only so much you can draw before everything slows down. So make eight a constant and you don't have to worry about it!"

RETURN OF THE ALIEN KONG BEAST

Alien because of the pulsating head we assume, Matt. He squints at the screen. "Yeah! It is going in and out!" Matt simulates the throbbing with his hands and this seems to trigger the memory of a little coding quirk. "I gave all the screens literal numbers, so like, if you were using one of those editors that came out, this screen would always have to have a Kong Beast in. Every screen had to share the same code – I couldn't do 20 different programmes – so I'd have flags and if it was one of those screens and another test was passed, whatever it was, Kong, Eugene or whatever, would go to the bottom of the screen and stay there." We watch Willy plunge to collect the final banana before landing safely in the exit. "Do you have to get there before Kong does? No? Oh, I suppose I was playing with you a bit with that," grins Matt.

ORE REFINERY

"Are those lumps of ore? Probably," says Matt. "And you'd imagine a skull and crossbones not to be the target, but it is!" Despite Willy holding one over his shoulder on the cover of the second edition of the game, this level has one of only two ladders that appear in the game. It also has a lovely blinking eye. Any significance, Matt? "Oh ore!", he cries, cryptically. We admire Willy's well-timed, 'no going back' dash to the exit. "Oh yeah, you could've played for ages and get it wrong with that. Ha! I'd draw the platforms on graph paper and put arrows in where... No, no I didn't," he says, correcting himself. "I didn't use graph paper for *Manic Miner*. I wrote an editor on the Tandy for it. I wasn't using graph paper for level design, I was painting them in and playtesting them. I'd do a bit and see if it was possible to get past that. Then I'd add the next bit." And so his masterpiece evolved.



SKYLAB LANDING BAY

This level was always our undoing. The random falling objects instilled such panic in our young fingers. "Nope, it's all in a set sequence," Matt explains. "If you tape record this screen, it should be the same on every version. You can learn the pattern." His mind moves on to higher things. "Skylab was launched the year before and it crashed and burned... for the usual reasons. I don't know what they're going to do with the international space station when they can't afford to refuel it. I reckon they'll send it off into a higher parking orbit when they're finished with it... too big to crash and burn." Erm, and the keys on this screen? "Oh, they're computer chips." I notice Matt's fingers are twitching and then he starts making plinky plonky noises, while indulging in some inspired 'air gaming.' He still loves his baby...

THE BANK

We both smile at the rubber cheque on this screen. "Oh, cheques bounce," says Matt, ruefully. The ladders are back, too. "Yeah, that's a trellis. Left and right are the same character. I think you could only use eight different characters on each screen. Or was it four? *Jet Set Willy* was four, I think. That was even more primitive in some ways. The keys were stored separately. Were they? I can't remember. No, no they weren't. You could have a room full of 'em. The ladder was made from reusing a trellis character. There's no flipping in this – the line has to be up the middle. If they're flipped, they have to be stored twice in memory. You bit flip it and it's a completely different number. Flipping is an expensive operation on the Spectrum. Well, horizontal flipping is. Vertical is okay. That's just a memory location." We nod and hope you coders followed all that.

SIXTEENTH CAVERN

"I'd run out of names. Or maybe I was thinking in hexadecimal and thought it didn't need one," says Matt. And what are those enemies? "Flag bugs! In the code. If flag bug equals..." He thinks for a while. "Did they do anything special? No? Perhaps they were meant to. The graphics weren't saved as files, it was done by numbers. I was putting it into video memory. I laid out the levels using the editor but I was doing the graphics on graph paper. I didn't have BOUGIE (Byte Orientated Universal Graphics Interactive Editor) then. A thing I wrote that let me run through four frames of animation, forwards or backwards. Skylab is an exception. They have eight frames for the explosion, but the normal was four." And the keys? "That was an attempt at credit cards," he says. We note the need of collecting the key nearest the exit last, lest poor Willy is trapped with a depleting air supply. "It's not good to have tricks like that. Sometimes you can't resist it," he beams.

THE WAREHOUSE

"This was another experiment that I thought was so impossibly hard it would do nicely as a killer... a boss level!" he explains with a malevolent cackle. "I only ever completed this once [Pedants note, last time we met he confessed to never having completed it]. "Now I've had more practice maybe I could do it in half a dozen goes. With moving things and collapsing floors it's very hard to measure whether something is possible. Because everything is pre-determined, if it's possible once, it's possible for everyone. That's the only way you can really know that you're not on a bum steer." The lawn mower threshers on this level changed into the Software Projects 'Impossible Triangle' logo at the same time the Bug-Bytes were ditched. Or at least, that was the plan...

AMOEBATRONS' REVENGE

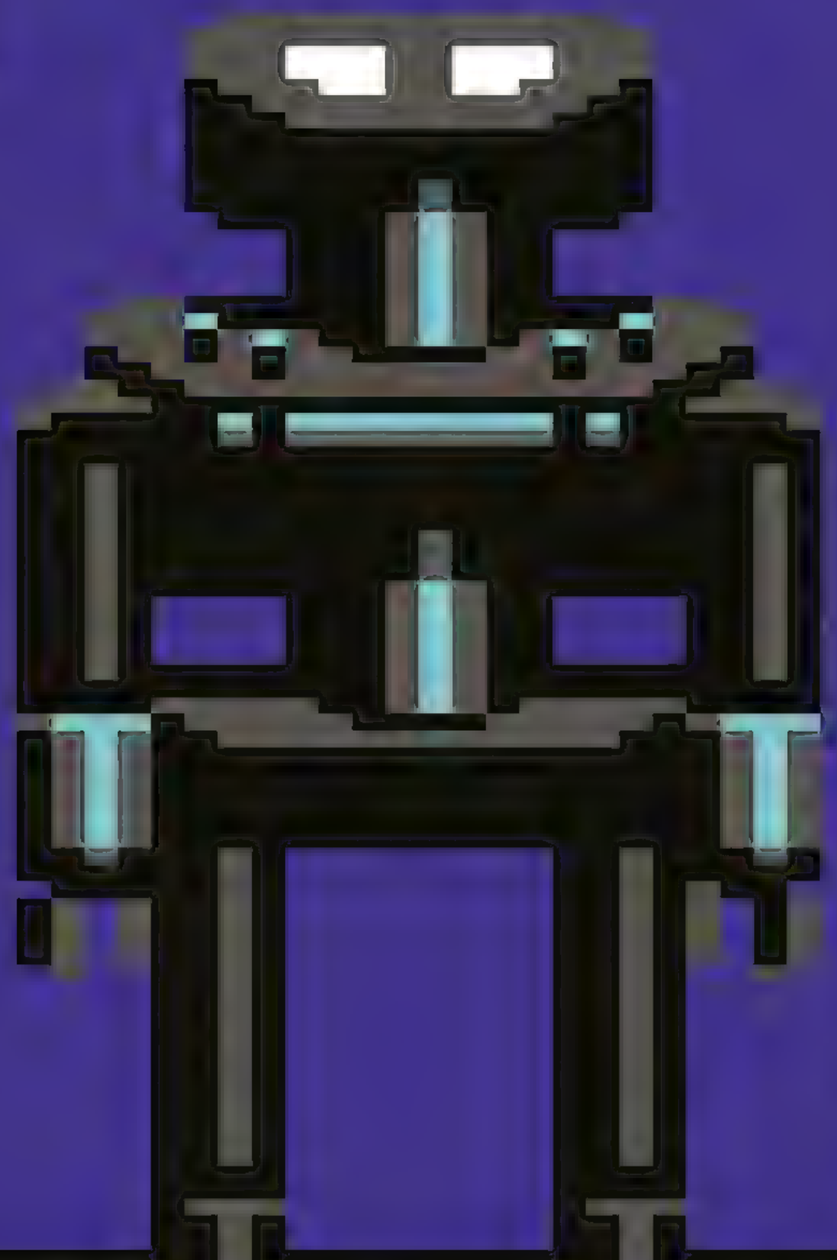
The tentacles are back in a reprise of Level 9, though they now seem to resemble the invaders from *War Of The Worlds*. "I thought they were jellyfish but yeah, maybe they have evolved into a higher life form," muses Matt. The difficulty has also grown. "This screen has all the different speeds the enemies can move at, up to four pixels a frame. I did the same sort of thing in *Jet Set Willy* for the Kitchen, but split it over two screens."

THE FINAL BARRIER

We're almost home. And with the sun setting romantically over the lake, it never looked sweeter. "Yeah, I'm playing around with colour clash here. The graphics are sort of better. I had more freedom because there wasn't any interaction. If you're on screen 20, put the title screen graphics on the top half and you don't have to worry about 'em. I did do this screen on graph paper, then cut it up into characters and worked it out in hex in my head. No art packages or scanners back then!" Is that a lucky horseshoe signifying the final exit? "Nah, it's omega – the end!" And the fish and dagger that rewarded the heroic few? "Oh, just things I'd drawn that were only eight pixels high and 16 across and I hadn't used in the game," he says casually. But Matt, at the Screenplay Festival a few years back, and admittedly after a few beers, you went on about its religious connotations, that it was your attempt to give gaming a "little bit of folklore"? He takes one last drag of his roll-up. "It might have," he smiles. "You'll find out in my next broadcast..." Ah, if only...

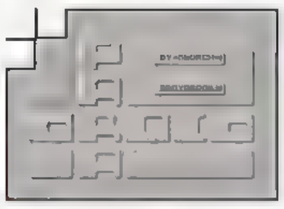
SOLAR POWER GENERATOR

Was this a sign of your growing environmental awareness then, Matt? He has a wild, far-off look in his eye. "No more than any other rational person. I'm worried about the environment, man..." he answers in that Neil voice. "I think this is one of the brightest backgrounds. Up till now, I think I'd only done one of the four dark colours. Mainly black." Nice solar-ray effect. Was it tricky to create? "Ooh, highly technical," he laughs. "Nah, just a little bit of code. Easy enough to program. One character wide, go down and if it hits something, go that way – always at a right angle. The Spectrum can only do right angles in colour. Get it bouncing around. They'd call it artificial intelligence now. Doesn't kill you but it sucks your air down when you're in the beam. It's sort of complicated and you do run out of air, but it's not a particularly hard level." We can't be the only ones to strongly disagree...



What links a heavy metal album, a James Cameron film and a mainframe computer? They all helped inspire Andrew Braybrook to make Paradroid, and he looks back to its creation and the games that followed with Andrew Fisher

Paradroid



IN THE KNOW

» **PUBLISHER:** HEWSON

» **DEVELOPER:** GRAFTGOLD

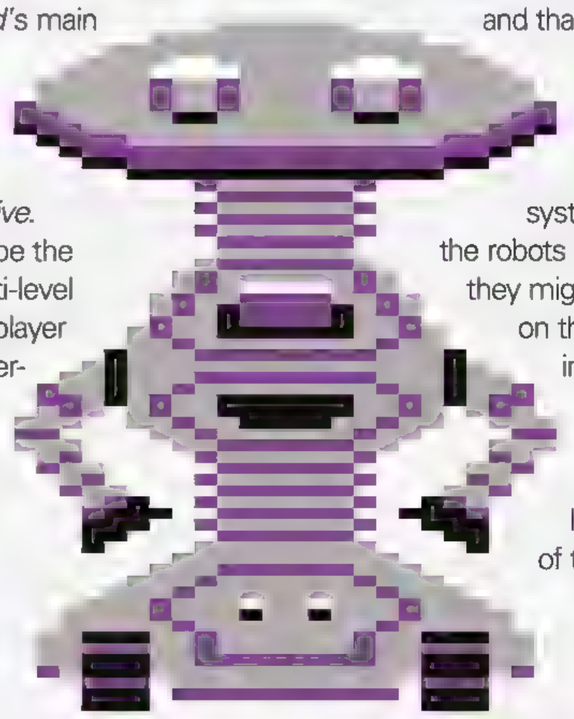
» **RELEASED:** 1985

» **PLATFORM:** C64

» **GENRE:** PUZZLE

Andrew Braybrook started *Paradroid* after finishing *Gribbly's Day Out*. "It was our practice to print out the final version of the code and then add comments. It wasn't practical to waste disk space on comments in the code while writing the game so we'd spend two or three days adding notes to the code on paper. We'd also go to the launch of the game, usually at a bar in London, and maybe visit one or two offices to promote the game to the magazines. We didn't take a big break between games, there was a momentum to keep up." One of those visits had an important outcome. "That all happened when we took *Gribbly's* to *Zzap!* Towers in Ludlow. They liked it, and Chris Anderson was keen to do something like a diary for the next game, and we thought that might be fun and not too intrusive. I just wrote a paragraph every evening on the events of the day. I used to plan out what I was going to do that day on the walk to Steve's house, and that was all the planning I needed."

Andrew reveals *Paradroid*'s main inspiration. "The game was originally based on a COBOL game I had written on the mainframe six years earlier, called *Survive*. The objective there was to be the last player left alive in a multi-level environment. It was a multiplayer game and had two computer-controlled assassins, so the players used to gang up on them to take them out first and then battle it out to the end."



Paradroid's distinctive look used an overhead view with robots depicted as their serial number. "The animation of Gribbly showed me that I could animate sprites and save a lot of bytes. Top-down games tend to need at least eight directions of animations and that was going to be too expensive. So I figured that if I showed the robots bigger in the console lookup system to let people see the robots side-on and bigger then they might accept the numbers on the disks. I was also influenced by the cover of the Black Sabbath album *Technical Ecstasy*, as it had line-drawn blueprints of two robots." The cover

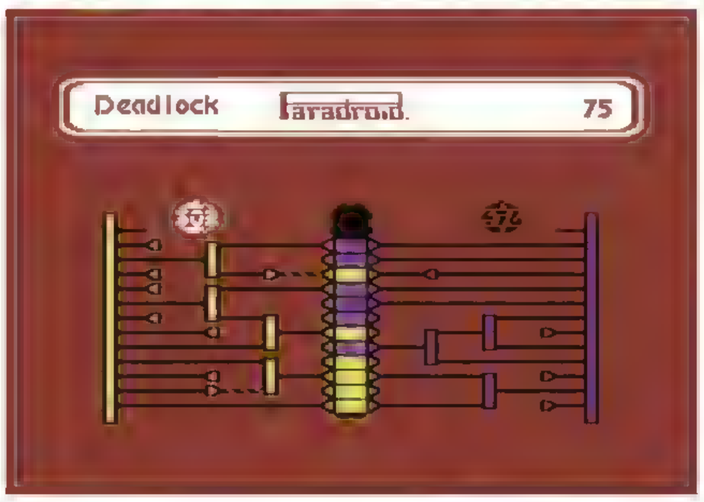
showed two robots 'interfacing'; the lyric sheet had the blueprints.

"I had tried to draw some real ship graphics but found it difficult to get a good look in multi-coloured graphics mode. I tried single-colour mode and that dictated a scale of the graphics that also didn't suit trying to look real, so the whole idea of the game being a radar-driven map was born. Quite possibly the movie *Aliens* had an influence on the look," says Andrew. One routine made things complicated. "The robot graphics are only shown on-screen if they would be visible by line of sight from the player, another *Survive* feature. The function to efficiently work that out was interesting to write with only three registers. We had the COBOL code to refer to, but it took a while to get that right. I also remember a mysterious crash which took me three days to find."

Interestingly, *Paradroid* was built around existing code that Andrew had available. "We usually did strip down the last game. Things like the scroll routine, sound player, input routines and movement routines would be saved, possibly tweaked and tested before starting the new game," he explains. "That bought a bit of time to think about designs. I had a book of fonts and had inherited a multi-character printing system from *Gribbly's* that allowed me to make letters out of two characters high graphics, or 2x2 for capital letters. I needed a more futuristic font and set about drawing one from the book. I had bought a couple of editors for the sprites and character sets; that made life a lot easier as it was quicker to create the graphics." Lots of paper was used during production. "We did write a lot of stuff down, diagrams, formulae, that kind of thing, as we were just coding with the Spectrum and the C64, and they weren't well suited to loading up multiple applications at once. So a pad of paper was always handy." ▶

» Oli Frey's original artwork for issue seven of *Zzap!* (with thanks to Roger Kean).

» The re-worked graphics of Heavy Metal *Paradroid*, released on the Rack-It budget label.



» This transfer game is deadlocked at six-all, the player must try again on a new layout.

» The lights go out when all the robots on a deck have been dealt with.

The 24 robot types had a small portrait shown when the consoles were accessed. "I had a budget for the number of sprites available, so I set about designing a system to reflect images in multi-colour left to right to save images, and there is some re-use. I wanted to group them by the top digit of the three-figure ID number, and having about three different robots per series seemed about right. I had to vary the features of the robots with speed and weaponry and that tended to suggest designs." Class 883 was familiar to viewers of *Doctor Who*. "I'm a big fan, it was just a nod to [the Daleks]. That became a bit trickier when I wanted to put them into the 16-bit version. We did draw the full graphics but bottled it at the 11th hour and changed them. I had also done a Dalek game for the mainframe, just with letters for graphics, so I had a fondness for the movement and the brutality of them."

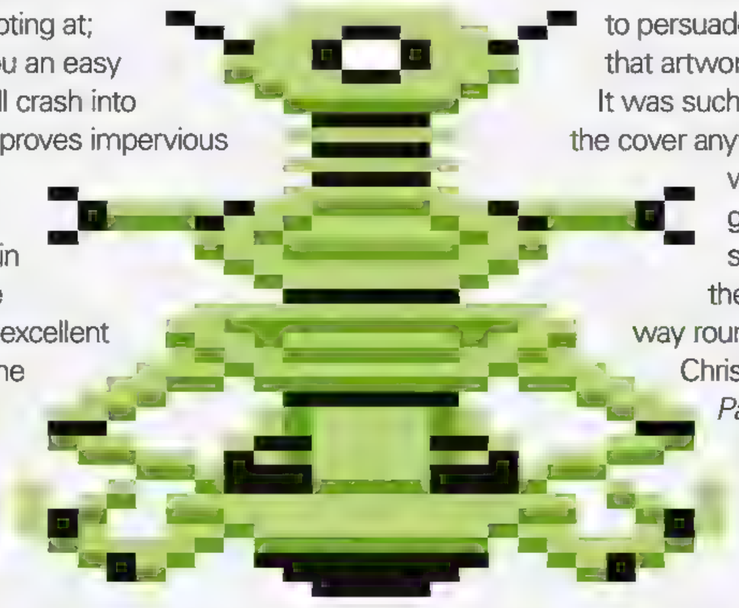
Testing feedback changed the controls. "I had a couple of failed control modes, all to do with firing. I started with a separate gunsight that you optionally move about. But whilst it could hit a static target quite easily, there was no way you could hit a moving target, and you had to stop moving so you're a sitting duck. The second method had a floating gunsight in front of the player, but that meant you have to move straight at the thing you're shooting at; again making you an easy target, and you'll crash into your target if it proves impervious to your firing."

Colliding with another robot in transfer mode launched the excellent sub-game. The player and robot fought for control of a circuit board. Success gave the player access to the new robot and failure destroyed the current robot – meaning game over if that was the Influence Device. "I needed a way of balancing the game so that it would be difficult to move too far up the hierarchy of robots in one go. The transfer game switches the emphasis from many against one to one-on-one in an instant. It just all came together and worked in one go. That doesn't happen all the time, but it just worked. Steve even used it again in one of his games."

There were eight Robo-freighters to conquer, starting with Paradroid – which gave the game its name. Itsnothardenuff, the last ship, repeated. "The ships still get harder, it's all algorithmic, but the layouts of all the ships are the same as the maps do take up a fair amount of space. Each map is made of 4x4 character blocks and the ship has 16 maps. I could only get to about the fourth ship, so I figured it was tough enough, and anyone who got through eight ships was going to be some kind of superhero."

> **"The end of my C64 games was also the end of the lone programmer era"**
> Andrew Braybrook, on the transition to 16-bit

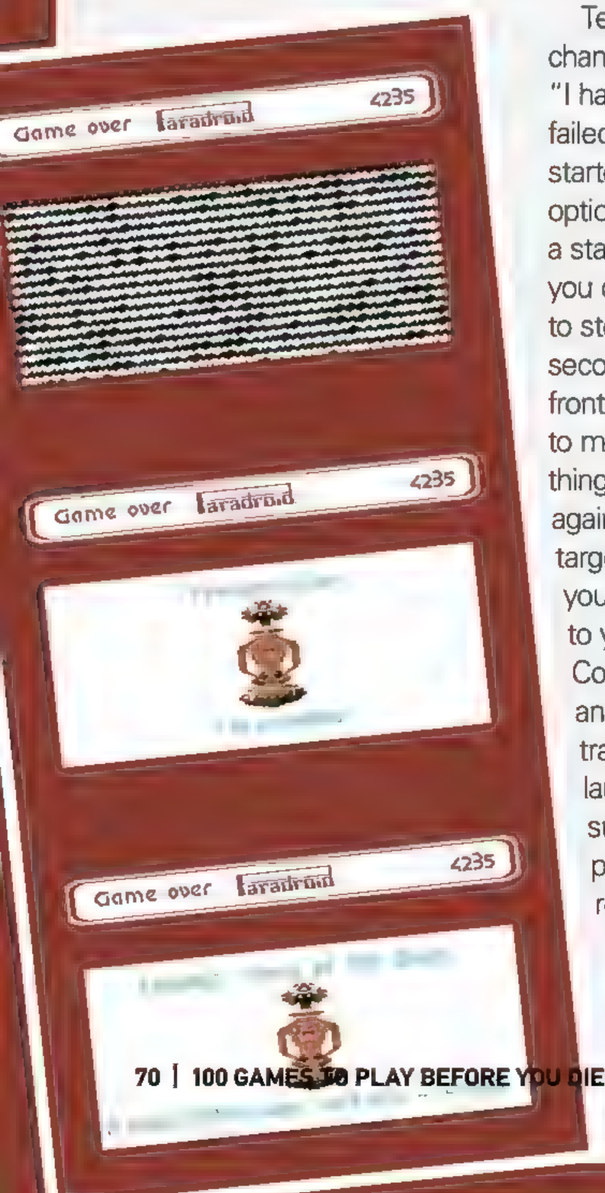
Oliver Frey's striking *Zzap!* cover celebrated the Gold Medal review. "I didn't like our box art at all, it looked so toy-like, but the robot on that cover had power. I tried to persuade them to let us use that artwork but they wouldn't. It was such an honour to make the cover anyway, and the image was so good. The game graphics are supposed to aspire to the art, not the other way round." The following Christmas a *Uridium* and *Paradroid* double-pack launched, featuring the improved Competition Edition. Who was behind that? "The marketing department, I would suspect. Once the game has been out for a while then they try and mop up the non-believers with a bargain."



Returning was easy, thanks to those copious notes. "As long as you're still using the same development gear then you stay familiar with the process, so it's not so difficult." Andrew continued tweaking *Paradroid*, resulting in a third version. "The Heavy Metal edition came about as I was doing Morpheus about two years later. I wanted to try out the graphics look and *Paradroid* was sitting there – so I redrew every character in multi-colour mode in that style and switched the graphic mode over. I decided to use the style in *Morpheus* and I made some other speed tweaks in *Paradroid* and got it running at a higher frame rate, so I figured I should show everybody."

Steve Turner took inspiration from *Paradroid* (see Droid Dreams boxout) and Graftgold created a 16-bit sequel. "After we had done *Rainbow Islands* on the Amiga and Atari ST I was looking for a new title. We had a lot of the tools developed for the map building so it seemed a good fit for the code we had. Dominic Robinson had written a game core system that gave me a ready-made interface to the hardware." Was it an easy transition? "We were keen to write on 16-bit. The big transition was going from character-based backgrounds to bitmaps, which I had used on *Lunattack* and on the Dragon 32, and Steve had used on the Spectrum, so we knew what the plot routines had to do. The code was lovely; all those registers. It gave us a real freedom."

"The biggest change, and I didn't twig it at the time, was that the end of my C64 games was also the end of the lone programmer era. After that it was a team effort. I usually had someone else help out with the sound ▶



» Game over. Static, the Command Cyborg as transmission is terminated, and a chance to enter your initials.

WE ARE THE ROBOTS

These are the droids you are looking for

TYPE 101

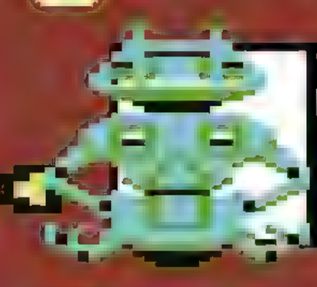
■ The player starts off controlling the Influence Device, armed with a weak laser. Lose this and it's game over.

TYPE 123

■ The slow-moving disposal robot is very weak.

TYPE 139

■ This is another disposal robot that sweeps up after itself.



TYPE 247

■ This servant robot was one of the first to use an anti-grav system, but is not armed.

TYPE 249

■ You cannot see this three-legged robot walking, but it is slow.

TYPE 296

■ The tray on this robot's head is for carrying drinks.

TYPE 302

■ A faster-moving messenger designed to carry parcels.

TYPE 329

■ A small wheeled robot, it is unarmed and so the Influence Device's laser is used.

TYPE 420

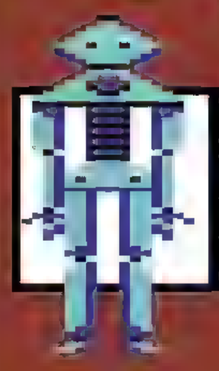
■ The higher the robot's class, the more pulses available in the transfer game.

TYPE 476

■ This is the first robot with a strong single laser. Worth seeking out in the early stages.

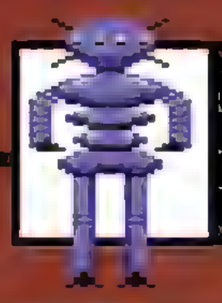
TYPE 493

■ Another maintenance robot, this one carries its own toolbox.



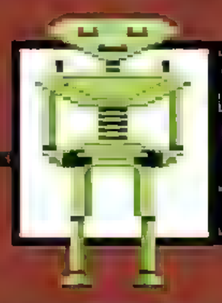
TYPE 516

■ Usually found on the top decks of the ship, befitting its crew droid status.



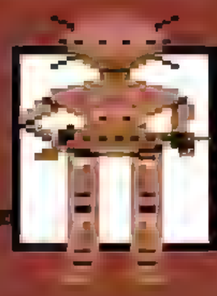
TYPE 571

■ The crew droids may move quite quickly but have no armament of their own.



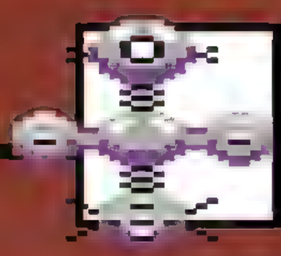
TYPE 598

■ Crew droids may also be fairly well armoured, taking multiple hits to kill.



TYPE 614

■ The first of the Sentinel droids, all armed with strong lasers.

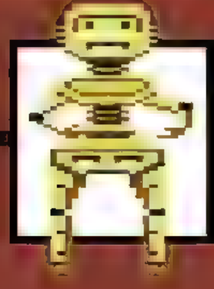


TYPE 615

■ Moves slower than 615, but it is equipped with good sensors.

TYPE 629

■ The console describes an unseen variation with an autocannon instead of a laser.

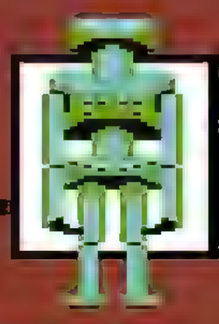


TYPE 711

■ Battle droids are heavily armed and armoured. The small laser of the Influence Device will not damage them.

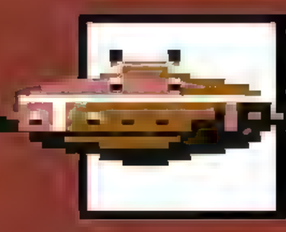
TYPE 742

■ Another tough battle droid, the disruptor's explosion flashes the whole screen black and white briefly and damages nearby robots.



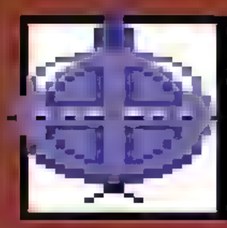
TYPE 751

■ This battle droid became the face of the game, on Oli Frey's cover and the loading screens for later versions.



TYPE 821

■ Twin lasers and fast movement make this a formidable opponent.

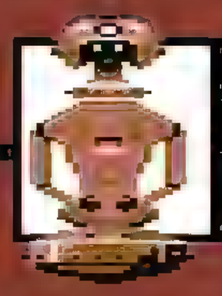


TYPE 834

■ Another fast mover, so be on your guard around it.

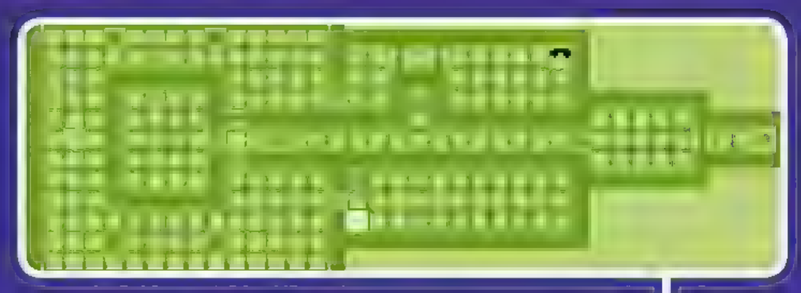
TYPE 883

■ The dreaded 883 inspires fear in humans for some reason.



TYPE 999

■ The ultimate Command Cyborg can only be influenced for a short time before the player must seek a new host.



ALL HANDS ON DECK

Andrew Braybrook gives insight into Paradroid's ship design

OBSERVATION

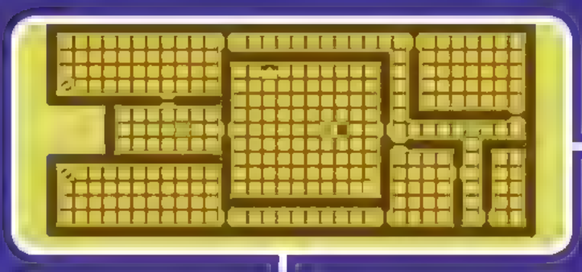
1 The two halves of the observation deck are accessed from different lifts, and both must be cleared of robots to shut the deck down.

RESEARCH

5 "Generally crew droids here. Possibly sentries too."

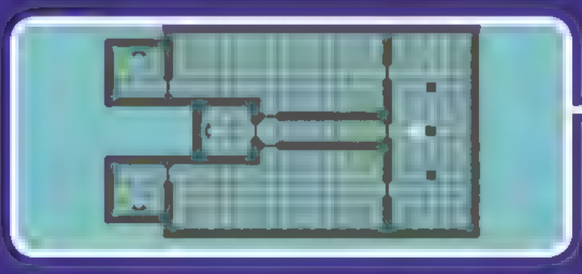
AIRLOCK

2 The airlock's main features are the four energisers at one end and the single lift at the other. It is usually sparsely populated.



REACTOR

4 "You would generally find crew and maintenance droids here. Since the crew droids would not be heavily armed they would only act as a staging point to larger robots."



ENGINEERING

13 "Crew and maintenance droids will mainly be in attendance here. Messenger droids might be here too."

MAINTENANCE

14 "A high percentage of maintenance droids with some lower level ones in case of emergencies."

11 MID CARGO

UPPER CARGO

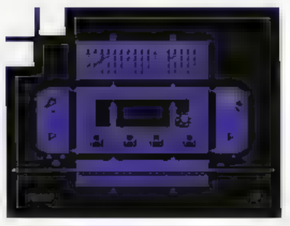
6 "The cargo is mainly battle droids, so expect a contingent of dangerous droids." The same is true for the vast mid cargo deck below, often including the 883 patrolling among the cargo containers.

▶ effects and music, but apart from that I did the vast majority of the graphics and the coding. That gives you confidence in the code; you know exactly what is going on all the time. I did do some *Paradroid 90* graphics, but I had to become a team leader too." That team included Dominic Robinson and artists John Cumming, Michael Field and John W Lilley.

Jason Page created the sound. "When I started at Graftgold, I was mainly a programmer but moved into the audio side of things. For music, I'd write the original using NoiseTracker. I'd then type in all the data as hex into the Graftgold audio player code. After *Paradroid* I wrote a new sound routine and editor, which we used in future titles." Did the original influence him? "Oh yes. Hence there being lots of warbling sounds and such like. They were iconic C64 *Paradroid* sounds, so I wanted to keep those. It was important to keep the overall feel of the original."

Andrew explains why the decks scrolled vertically and abstract droids became proper graphics. "The ST wasn't keen on horizontal scrolling. We did have a full scrolling version on the ST, but it didn't look pretty enough. It took a lot of memory to prepare all the combinations of the graphics blocks. That decision didn't go down too well with the Amiga crowd! We had enough space to do the animations, and having 16 colours on-screen it seemed right to draw the graphics in a real style. We did try the blueprint style but it looked weak against some of the prettier games of the time."

The robot line-up changed, joined by new human raiders. "I wanted there to be some familiarity with the C64 content, it was a 16-bit implementation of the same game as far as I was concerned. The raiders were a mechanism to speed up progress towards the end of the ship when there aren't so many robots about. There was also a bonus pirate ship that you got at the end if you had completed all the ships and collected all of the Graftgold keys. It was only a small ship, but very tough."



DEVELOPER HIGHLIGHTS

MORPHEUS
SYSTEM: C64
YEAR: 1987

INTENSITY
(PICTURED)
SYSTEM: C64, ZX SPECTRUM
YEAR: 1988

URIDIUM 2
SYSTEM: AMIGA
YEAR: 1993

Would Andrew have changed anything? "*Paradroid 90* was as good as it could have been. If we had done another Amiga version then it would have scrolled in all directions and run at 50 frames a second. There were difficulties so we'd have used a different publisher in hindsight." Andrew reveals Gary Foreman was close to completing a PC Engine version with a two-player mode; development was halted by Hewson's bankruptcy.

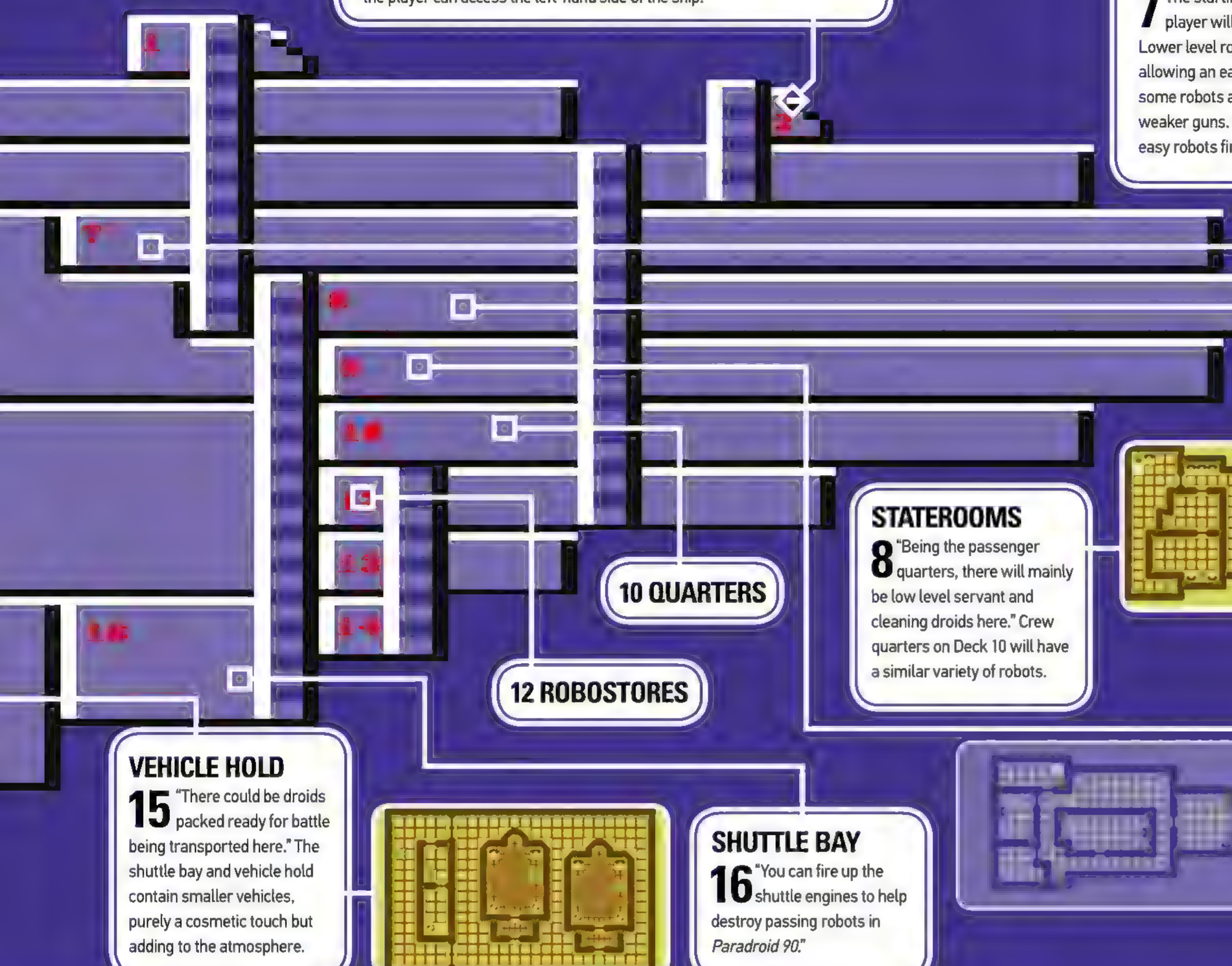
Paradroid 90 became *Paradroid 2000* on the Archimedes. "We just thought it sounded

BRIDGE

3 "There was only ever one 999 and it would always be on the bridge. That gives the player the choice of when to go and tackle the 999 and an opportunity also to decide where they want to take it to use it for maximum effect. The far left-hand lift leads to the reactor and from there the player can access the left-hand side of the ship."

STORES

7 The starting deck is chosen at random, and the player will often find themselves on this deck. Lower level robots help to ease them into the game, allowing an early transfer. "You should also find that some robots are completely unaffected by some weaker guns. That means that blowing away all the easy robots first isn't necessarily a good plan."

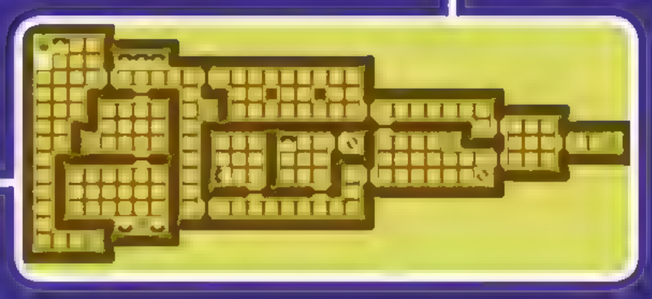


10 QUARTERS

12 ROBOSTORES

STATEROOMS

8 "Being the passenger quarters, there will mainly be low level servant and cleaning droids here." Crew quarters on Deck 10 will have a similar variety of robots.

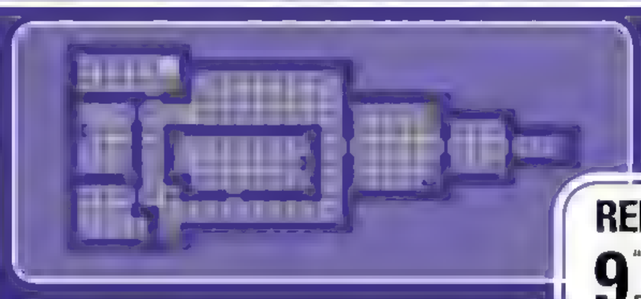


VEHICLE HOLD

15 "There could be droids packed ready for battle being transported here." The shuttle bay and vehicle hold contain smaller vehicles, purely a cosmetic touch but adding to the atmosphere.

SHUTTLE BAY

16 "You can fire up the shuttle engines to help destroy passing robots in *Paradroid 90*."



REPAIRS

9 "You could find any robots here being repaired or cleaned."

really futuristic. This was 1991 or 1992 and 2000 seemed a long way away," says Andrew Catling. "My childhood heroes were people like David Braben, Orlando, Geoff Crammond and Andrew Braybrook so it was a dream come true to make games. Coin-Age had a deal with Graftgold to convert their games to the Arc. I'd just finished *The Last Ninja* for Superior Software when they got in touch."

"The 68000 code was adapted from *Rainbow Islands*. I decided I'd rewrite everything from scratch rather than try to translate it. I wasn't familiar with 68000 but I could get the gist of how things worked and how the data for the different droids was used. I was quite pleased with the transfer game, as that was the first time I'd used recursion in ARM assembler and it was quite an elegant solution. It took three months to rewrite the whole thing. I didn't have a lot of graphics work to do as they were just ported from the Amiga." Does he still play *Paradroid*? "Luckily, some amazing archivers have managed to preserve all of my old games, so I've been playing them again recently. I think *Paradroid* still stands out as one of the best, mainly because of the timeless design."

Fans help *Paradroid* live on. "We get people asking if it's okay to do a remake for their university project, and it's not really up to us any more. I don't think people realise how much detail is in a game, so most never get completed," says Braybrook. Among those that were completed were a two-player Amiga PD version and Ovine's *Project Paradroid* on PC. *Paradroid Redux* by Jorma Oskanen is an ongoing C64 project, with a faster frame rate and bug fixes. Andrew notes, "I do hope he's talking about his own bug fixes, because I am not aware of any bugs in my code! The Heavy Metal edition was running at the improved 25 frames per second." Reinhard and Johannes Prix started the open-source Freedroid project, which recently launched on Android.

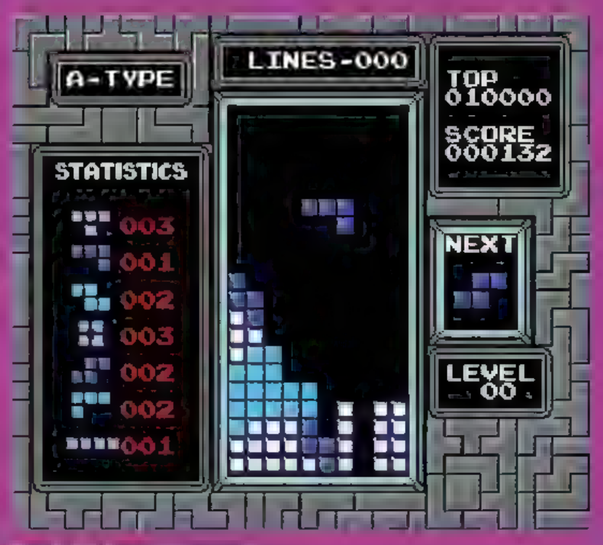
The original *Paradroid* appeared on the C64 DTV joystick and Wii's Virtual Console. Would Andrew himself ever go back? "I am considering writing something new that retains the retro feel of *Paradroid*. I would probably try to make it a shorter game as *Paradroid 90* would potentially take about 3 hours to play all the way through. It would have to be something new though, maybe the game I would have written without hardware restrictions." We can't wait.

100 GAMES TO PLAY BEFORE YOU DIE

TETRIS

Responsible for unleashing a game that's persevered for two decades and infiltrated almost every type of hardware imaginable, Alexey Pajitnov talks to Craig Grannell about how the ground-breaking Tetris was, for him, initially a small, insignificant game inspired by an obscure mathematical puzzle

'Do androids dream of electric sheep?' was a question posed by Philip K Dick in his 1968 novel of the same name. If so, they're the lucky ones because I dream of blocks comprising four squares, falling downwards, rotating and slotting together to create solid lines, which subsequently vanish, along with a small amount of my sanity each time. This kind of dream, referred to as the *'Tetris* effect' is perhaps more common than you would think (which doesn't mean you're any less crazy if you experience it – just that there are more crazy people out there than you thought), and it highlights the massive reach of the action-puzzler that prompts it. Because, for all of videogaming's attempts to become increasingly mainstream, there are few games that achieve the lofty goal

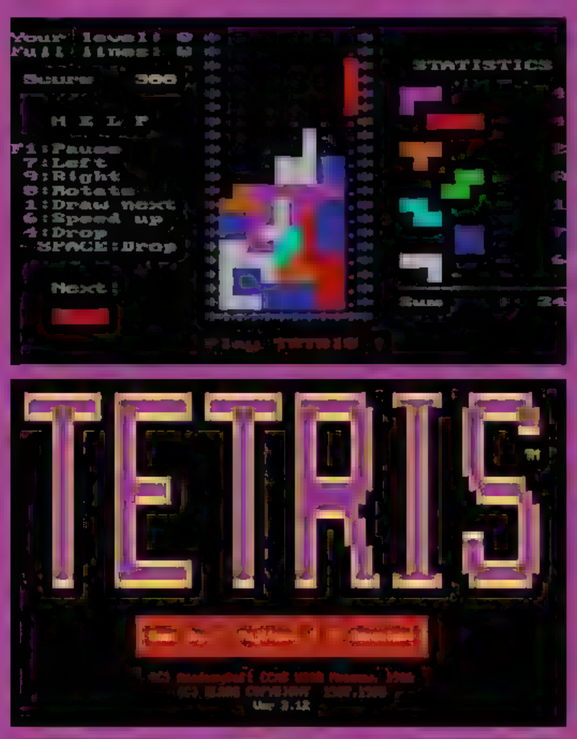


> “Tetris and game boy were born for each other – they fit together so well. I can’t imagine two other products created absolutely independently that fit”

Above and right: The USA version, titling everything in Russian for no apparent reason | [NES] Early on, only the Soviet Union got Tetris

of being truly recognisable to all – even stalwart classics such as *Space Invaders* and *Pac-Man* may be unknown to younger audiences. However, *Tetris* is different – almost ubiquitous. For all its appeal and reach, it started off as little more than an amusing distraction for its creator, Alexey Pajitnov, while he tested new hardware while working at the Dorodnicyn Computing Centre of the Academy of Science of the USSR, in Moscow.

As a graduate of computer science, Alexey’s work at the Academy of Science was largely based around artificial intelligence research, and he describes himself at the time as “a young workaholic – the type that loves to program and sit for long hours at work”. Alexey was also tasked with figuring out how new hardware that regularly arrived at the academy could be put to use for his research. “The best way to learn a new machine is to try and make a small program for it to see how it works,” he explains, leading up to the reason why *Tetris* was initially created. “Small computer games were the ideal form for this kind of testing program, and that’s why I had some kind of excuse, if you will, to work on my game.”



» The DOS port helpfully tells you to ‘Play *TETRIS*!’, in case you thought it was some kind of blocky rolling demo.

Of course, hardware is somewhat by the by – the crux of any game (or, at least, any good game) is its concept, and although *Tetris* would become a fluid, organic project during development, its seeds were sewn early on in Alexey’s life. “I was a sharp kid, and have always been interested in riddles and puzzles, and I even changed schools to join one with a special mathematical component,” he explains. “That was also the time of communism in Russia, and so we didn’t have too much entertainment around us – and so intellectual mind games were a very good diversion. I saw this passion all around me, and children used to compete in a kind of ‘mathematical Olympics’ competition, in which I participated a lot. This part of my life later translated into the games that I did.”

Of the puzzles that fascinated Alexey, pentominoes stood out. “It’s a dozen pieces made out of five squares, and they kind of look like jigsaw pieces, only more mathematical,” he explains. “The puzzle existed in Russia, sold in stores and fashioned in plastic, and I thought it was absolutely great – the best puzzle in the world.” What appealed most was the simplicity of the pieces and the massive scope they offered for multiple combinations: “There’s no technology in pentominoes – you just take the pieces from the box, play with them and enjoy them. But when you want to put them back in the box, you can spend a couple of hours doing so – at least if you’re stubborn enough to try!”

Alexey decided that a two-player version of pentominoes might make for an interesting game to use for testing the Electronika 60 desktop computer that had recently arrived at the Academy of Science and he set about putting something together. “I thought that you could somehow divide the pieces – six to each player – and start to put them back into the box; and whoever was unable to make the next move would lose,” he says.

Without any specification of a final set of rules, Alexey set to work on programming his new game: “First, I needed to create

IN THE KNOW

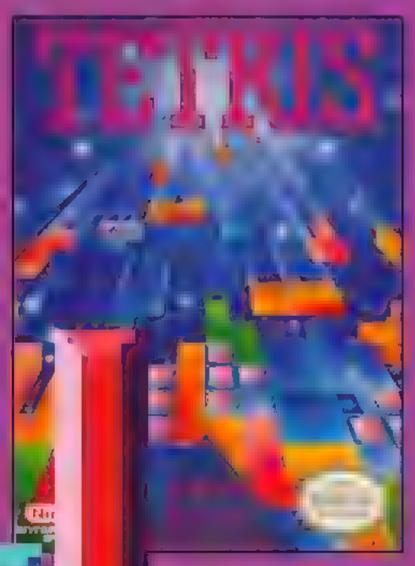
» **PUBLISHER:** N/A

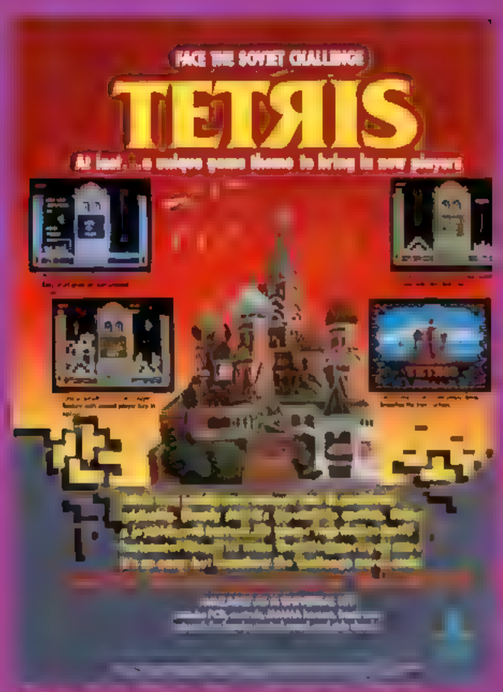
» **DEVELOPER:** ALEXEY PAJITNOV

» **RELEASED:** 1984

» **PLATFORMS:** ELECTRONIKA 60; CONVERTED TO: DOS, GAME BOY AND JUST ABOUT EVERY OTHER PLATFORM IN EXISTENCE.

» **GENRE:** ACT ON PUZZLER





an environment, some kind of graphical procedure to visualise the play field and the pieces. However, at the time this was tricky because my display didn't have any graphics at all – all I had were 24 lines of 80 alphanumeric symbols." In order to design the squares that made up the various pentominoes, open and close square-bracket symbols were used – two together forming a basic square. A ten-by-six play field was created, along with the mechanism to position, rotate and flip each of the pieces before moving them to the field. "But when I wrote the procedure for rotating the pieces, it worked very fast and looked funny – if you frequently pushed a key, the puzzle piece rapidly rotated on the screen," remembers Alexey. "This was so amazing for me. That sounds really ridiculous now (he laughs), but that was the first time I had ever seen such stuff on the screen."

Upon seeing the spinning pieces, Alexey hit upon the idea of making them rotate and move in real time upon being placed on to the screen. "This was a very important moment for *Tetris*," says Alexey. "It went from being a two-player version of a strange game based on an obscure mathematical puzzle to me idea of a real-time game that used the same pieces." First, gravity was used as a natural way for the pieces to fall down. It then became apparent that the original field of play was too restrictive and so it was enlarged and aligned vertically. "Everything worked, but when I started playing the game, I realised it was really complicated," remembers Alexey. "Pentominoes are fine when you have unlimited time to sit and think about how to use them, but they were too complex for my real-time game where you need to immediately recognise a piece and know what to do with it."

The pieces were honed down to forms made up of four squares – tetrominoes. The complication of piece-flipping was also dispensed with. Alexey instead adding the symmetrical forms of non-symmetrical pieces to the available set. "Suddenly, the interface was much simpler," he says. "You only needed to move and rotate pieces. Because the set was now simpler I decided you didn't need for the entire set to fall down – pieces could appear in a random order."

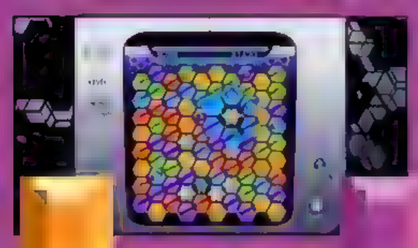
Tetris started to resemble the game that we all know and love, but one major component was still missing. "At this point the game ended really quickly, even if you didn't make mistakes, because the play field was so small, and so I started thinking of ways to prolong my pleasure," laughs Alexey. "My original idea was to create a long, narrow well that could scroll. But after thinking about this, I didn't like the idea – it was difficult to get scrolling working on my machine, and the player would also have to remember what was already on the board. I didn't think my simple mind game should be that complicated." The solution was far simpler. Alexey realised that when a horizontal line was completed, it became obsolete, just taking up space. "I thought 'Why keep it on the screen?', when I need

DEVELOPER HIGHLIGHTS

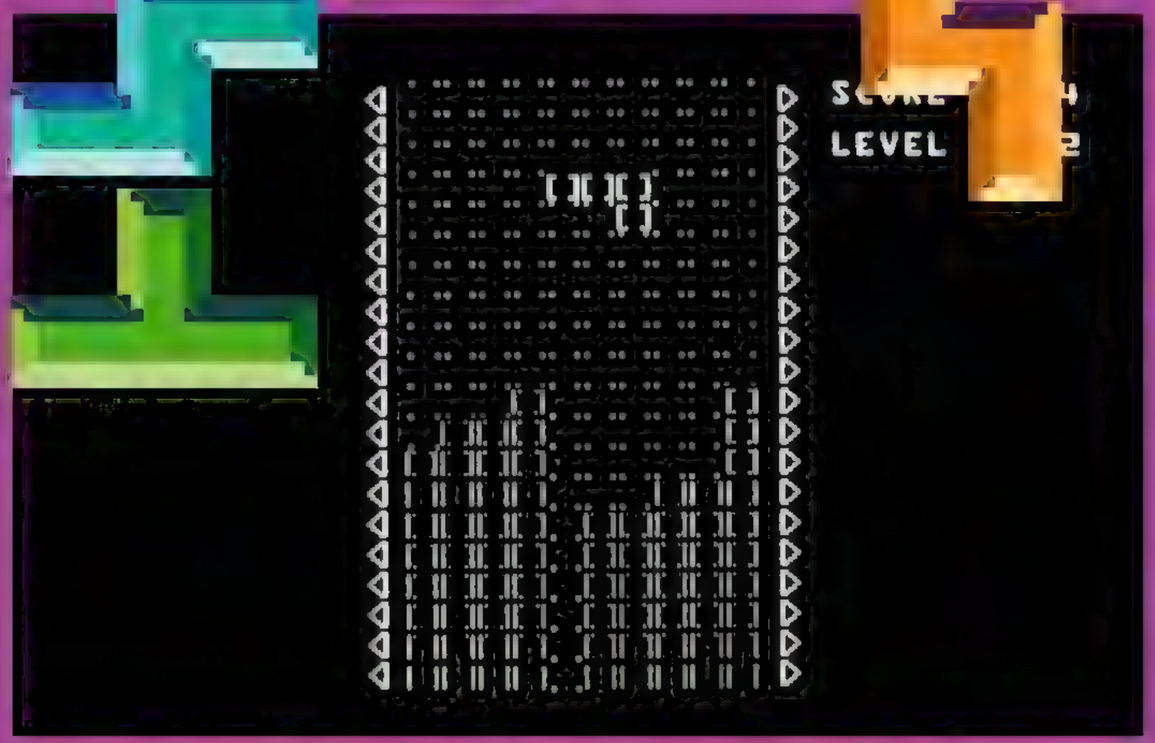
WELLTRIS

PANDORA'S BOX

HEXIC HD



> The screen was really ugly, and the interface was very primitive – there was no real decoration on the screen – but it worked. It was so addictive that I couldn't stop playing to finish the damn thing!



» Lurking within *Tetris Worlds* on the PlayStation 2 is a version of the original *Tetris*. Feel that ASCII goodness!

» *Tetris Zone* for modern PCs requires a 'mere' 8,000 times the RAM of Alexey's Electronika 60 version

more space to prolong my pleasure," says Alexey. "Instead, I could take it away and give a score for it. And that was the last important moment for *Tetris* – once I did this, the game was kind of ready."

The *Tetris* on Alexey's machine at this point was, by his admission, something of a prototype and still needed work. However, all of the game's important mechanics were there, and the game had been surprisingly easy to create. "I give you such details about the game, but all the decisions were done in one day, in a couple of hours," claims Alexey. "In reality, somehow, all these decisions were made so naturally." Most importantly, the game was fun – so much so that it took another couple of weeks for Alexey to get the game into a state he was happy with: "The screen was really ugly, and the interface was very primitive – no real decoration on the screen – but it worked. It was so addictive that I couldn't stop playing, in order to finish the damn thing!"

With the game debugged, complete with a level system, scoring and a high-score table, Alexey decided to spread it around Moscow and see if there was any interest in his creation. The reaction was everything that he had hoped for. "It was like a wood fire", he exclaims. "Immediately, every place where they had the Electronika 60, my *Tetris* game was working there, and I realised that maybe the game was not bad and should be ported to the PC, because that was the only way to show it to the world outside of Russia."

The only snag was Alexey's lack of familiarity with the PC – at that point, the first PC had only recently arrived in the computer centre, but it wasn't in Alexey's possession, and he didn't know how to program it. "I was interested in lots of other stuff, and so it might never have happened if it wasn't for Vadim Gerasimov," states Alexey. "He was a schoolboy at the time, but an absolutely genius programmer who fell in love with the PC and knew every bit of the operating system – many big guys in the computer centre went to him for consultation, and someone recommended I work with him on my game." And so, Alexey gave Vadim his code in Pascal, and he began the process of transferring the 2000 lines of code from one machine to the other. "There was nothing in common with the machines – no format, no disks, nothing – but once the code was across, the rest was a piece of cake."

Unlike Alexey's original version of the game, colour was possible in the DOS conversion of *Tetris*, giving players an additional way to recognise each tetromino as they fell downwards. Other useful features were added to the conversion over the following months, including the ability to show the next piece, an option to make the square tetromino an invisible 'phantom', and settings that dictated the starting level and height of 'garbage' at the bottom. One similarity to the original was how the game was spread. "The release process was simple – we just gave the game to a couple of our friends," jokes Alexey. "Within a couple of weeks, I saw it everywhere – on every PC in Moscow – and within a couple of months, we got a PC from Eastern Europe that was entirely empty, apart from MS-DOS and *Tetris*."

EASTERN BLOCKS

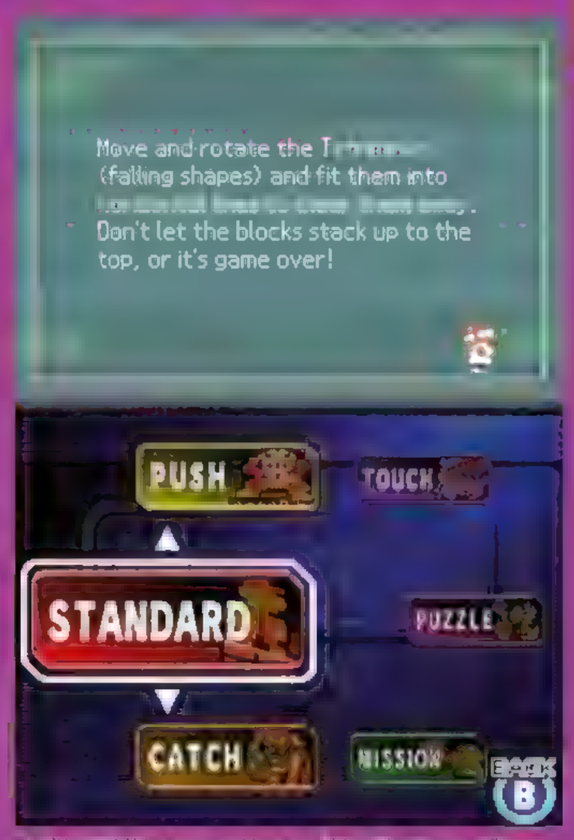
Few games have provoked such legal wrangling as *Tetris*. Once the DOS version spread, Andromeda Software's Robert Stein tried to secure the rights, selling home computer rights to Spectrum Holobyte prior to any deal, and continuing to sub-license rights he didn't own, even after the Soviet government began to market *Tetris* rights via Elektronorgtechnica (ELORG). Eventually, Stein's hand was forced, ELORG enabling handheld rights to remain with Andromeda, but banning *Tetris* rights on any other mediums. By the late-Eighties, several companies claimed *Tetris* rights ownership over home computers and consoles; and so ELORG signed the arcade rights to Atari and console and handheld rights to Nintendo. A major spat occurred when Tengen, Atari's console division, tried to release a NES version of its arcade title, something that had Nintendo fuming. Eventually, Tengen's creation was withdrawn, and while Nintendo's NES release was seen as ordinary, its Game Boy version was one of the most successful games ever. In 1996, Pajitnov and Henk Rogers formed The Tetris Company, gaining rights and finally providing Alexey with royalties for the game he created over a decade earlier. For more details: www.atarihq.com/tsr/special/tetrishist.html.

» Turn back now, C64 users! SIT's lovely (but unrelated) title screen masks the jerky, nasty game beyond.

QUEASY SPIN

Tetris Worlds was heavily criticised for including an 'easy spin' feature despite it actually originating in *The Next Tetris*, which enables rotated tetrominoes to be floated indefinitely, rather than locking upon landing on another piece. By utilising this method, gamers can make games of *Tetris* last for several hours, therefore many critics claim that this single feature breaks the game.

The feature has since been integrated into the official guidelines and is defended by Henk Rogers of The Tetris Company, who claims that it helps newcomers recover from small mistakes, but *Tetris*'s creator is not so sure of its value. "I still don't like it very much," says Alexey. "Unfortunately, on different platforms I was a new style of playing and later on we didn't want to lose the customers and therefore we tried to support all of those modes. Ideally though, I would have preferred for the game to be as simple as possible."



From there, *Tetris* exploded on to the world scene and there was simply no escaping it. Each version was followed by a lawsuit as various companies battled to secure rights to the incredibly popular game, while Alexey looked on not receiving any remuneration due to ownership residing with the Academy of Science. Alexey is reluctant to talk about what he refers to as *Tetris*'s 'business period', but he's happy to elaborate on what he thinks made the game so popular in the first place, to make the gaming giants scrap over it. "It appeared in the right place, at the right time", he modestly tell us. "At the time, we didn't have many games on the PC, especially fresh games and puzzle games. Most of what I saw at the time were arcade games, and they looked a little childish." Alexey's keen to note that he loves most types of games and played the likes of *Pac-Man* a lot – the problem was with professionals that had no direct interest in games. "Many people didn't feel good with that type of childish design, but *Tetris* was abstract and without any age connotation, and so everyone felt fine to play it."

The other thing Alexey believes helped *Tetris* become so popular was that it enabled everyone to join the party. "In the Eighties, computers were a relatively new phenomenon, and some people were almost afraid of them. You never knew what would happen when you pressed a button, and lots of programs were very buggy, which didn't help matters. *Tetris* was very simple and accessible, and it helped people get more familiar and comfortable with computers." Alexey then appears to consider *Tetris* as a product of its age, rather than a timeless classic. "I'm pretty sure that had I released *Tetris* ten or twelve years later, it would have been seen as just some ordinary game – nothing really so exceptional – but it appeared on the PC at the right kind of social moment."

At this point, we're not sure we agree. We mention to Alexey the reception *Tetris* received on systems like the C64 and the Spectrum. Even though both platforms already had a wealth of available titles, and despite the 8-bit conversions of Alexey's game not being particularly good, *Tetris* still stood out from the crowd, receiving near-unanimous acclaim. "I guess that might be true as well," muses Alexey, "but then many people have put forward

> **"In the Eighties, computers were a relatively new phenomenon, and some people were almost afraid of them. Tetris was very simple and accessible, and it helped people get more familiar and comfortable with computers"**

theories for the popularity of *Tetris*, and no one has a definitive answer – not even me." He does, however, note that the Game Boy might just have had something to do with the endurance of his creation. "The Game Boy release was the most lucky moment for *Tetris* – it's what made the game a real phenomenon," he explains. "Somehow *Tetris* and the Game Boy were born for each other – they fit together so well, in terms of form and design. If I think about it, I can't imagine two other products created absolutely independently that fit each other so well." And the result of the pairing is well known: the combination of Nintendo's hardware and Russian gaming going on to sell over 30 million bundles.

As the interview draws to a close, I ask Alexey if he had any idea what kind of a monster he was creating while working back in his lab in Eighties Moscow. "No, of course not," he laughs. "I started with the intention of creating a kind of two-player game for pentominoes. I was always writing very small, insignificant games for different processors and computers, and *Tetris* was just one of them." To hear him talk of the game in this way is strange, but it's easy to imagine how creating a *Tetris* is a blessing and a curse for a designer. "I became famous for *Tetris*, and decided to study to become a professional games designer. I had lots of small puzzle ideas and was excited to realise them – and so I started five or six games in a row. One after another," explains Alexey. "I was very productive – very active – I loved creating this stuff, but somehow, every time I proposed a game, everyone looked at me and expected me to deliver another *Tetris*."

After a tough couple of years, during which time Alexey regularly dismissed concepts – due to them being weaker than *Tetris*, he realised he needed to start afresh. "I decided *Tetris* was a story I had to forget about, and that I had to move ahead and start as a young, unknown designer. If you want something in this life, you sometimes have to forget your achievements and start from scratch. I started to work on naïve concepts – and decided that I needed to love it in order to do it, and that was enough – no kind of predictions or expectations of success and no comparisons. And it started working, because although I did a lot of bad games, I created several good ones, and I'm pretty happy with my career."

We talk to Alexey about his other games and projects, and Alexey lets slip to us that it's the fun puzzle collection *Pandora's Box* that's currently the closest game to his heart. "All this *Tetris* story is great, but a big part of the story is like that at the beginning of my career. But with *Pandora's Box*, I created the concept, the genre, and put in so much effort from beginning to end." Clearly, though, *Tetris* will always be with Alexey, the two inextricably linked, the creator watching from the sidelines as his creation rampages onwards to dominate new territory. With that in mind, we had one final question: is Alexey still happy with his original blueprint that's become a template for an entire genre? "When working on the original game, I had lots of ideas, such as putting garbage on the screen, but I thought it wouldn't be good for beginners," he says. "I also thought about a more complex scoring system, with premiums for clearing multiple lines, but I wanted to make the scoring as understandable as possible." Alexey pauses for a moment to consider what he would do to the original *Tetris*, given the chance, and then he finally answers: "I don't think I would change a thing."

THANKS TO Rik Morgan (www.handheldmuseum.com) for the handheld *Tetris* image. Special thanks to Blue Planet Software and crew (www.blueplanetsoftware.com) for the images of the Electronika 60 version of *Tetris*.

WELL, WELL, WELL. TRIS.

The only Pajitnov-created sequel to *Tetris*, *Welltris* moved the game into 3D. "Everyone wanted a 3D *Tetris*, but I realised that *Tetris* is hard enough for the brain in 2D," says Alexey. "In true 3D, it would be a very boring, slow game, so I decided to create a 3D graphical effect, but keep the gameplay on 2D planes." This grew into the idea of the well, in which the bottom and walls acted in a way similar to the original *Tetris*.

"It was a good game, but unfortunately, it wasn't realised well," says Alexey. "It was perhaps too complicated and the PC version was very attached to EGA, and died with it." Alexey notes that the game managed to survive a little longer as an arcade machine. "In Japan they created a version for four players, with each one controlling one of the walls around the well – the ideal form for the game."

ELITE

When Elite launched in 1984, its 3D graphics and sandbox gameplay were revolutionary. Now, 34 years on and with a new game released, co-creator David Braben talks to David Crookes about the impact of his game

There can be very few people who have not heard of the masterpiece of programming that is *Elite*. Some have compared it to *Citizen Kane*, the Orson Welles film classic of 1941, but while we perhaps wouldn't go that far, there's no denying the sheer impact of Ian Bell and David Braben's game. With a feeling of isolation that only a bleak universe can bring yet punctuated by the possibility of action, *Elite* could be both lonely and arresting. Flights would be suddenly interrupted by a space war or an opportunity to steal and trade.

Different worlds would lead to different possibilities. Players could take basic machinery, food and raw materials from an agricultural world and sell it to an industrial one. They could operate on the black market, dealing in slaves, narcotics and firearms.In 1984, this kind of sophistication in a game was incredibly advanced and yet there was an early chance that *Elite* would never even see the light of day. Infamously, Thorn EMI turned it down, put off by realistic physics and out-of-this-world gameplay that dispensed with multiple lives and the usual game mechanics of the day. But when Acornsoft got its hands on it, the firm knew it had something special.From the moment it was shown off at a press launch in Thorpe Park – one of the first games to receive this kind of treatment – *Elite* caught the imagination of both the gaming and non-gaming press and went on to spawn three sequels. "That event created so much evangelism for the game and it was clear that people wanted it," David Braben tells us.

On 20 September 1984, a true game changer was launched. Its name was Elite and it would go on to influence countless videogames for years to come. Created by university undergraduates Ian Bell and David Braben, it presented players with a vast, open 3D world. Gamers would set off from the planet Lave in a Cobra Mk III spacecraft with little more than 100 credits to their name. On their journey through the galaxy, they would become a space pirate, making their virtual living through trade, in a game that dispensed with multiple lives and time limits and simply aimed to absorb the player in the experience.

Elite has been a very influential game, but what was it that influenced you?

A lot of different factors came together at the same time. I read science-fiction books avidly, but the late Seventies was also the period when sci-fi first started to appear at the cinema, with *Star Wars* being the most obvious one. It had some of the atmosphere that I'd got from the books whereas TV – the likes of *Star Trek* – didn't really cut it. TV programmes were a bit too removed somehow and the same could be said for games at the time. I was more negatively influenced.

Which games caught your imagination at the time?

When we were writing *Elite*, we played games like *Defender*, *Galaxian* and *Pac-Man*. But I also liked *Philosopher's Quest*. What I liked most was the way you saved your position and the way the pace of the game was a bit more measured. Most of the other games that I played were a frantic few minutes and then a frustrating death.

Did you want to produce something different to those?

Games like *Space Invaders* or *Defender*, where you would get an extra smart bomb at 5,000 and an extra life at 10,000, felt so regimented. I thought "what if you got two smart bombs and no extra life?" I would want to choose. I also thought games were structured too much around the coin drop and so many home computer games were just direct derivatives of arcade games. I wanted to have much more considered games where you could stop and save your position and come back the following evening.

The sheer wealth of content found in *Elite* puts many current space games to shame

You can switch between different viewpoints, further adding to *Elite*'s immersion

So you'll be: 'Where do you want to go today?' Hundreds are stored

How was the development work split with co-creator Ian Bell?

We tried to split the tasks 50/50, but the way it worked in practice was we both worked on each other's code all the time. An awful lot of time was spent trying to do what we call byte-savings, which was a surprisingly rewarding way of trawling through, thinking "wow, I can rewrite those ten instructions into nine instructions and save two bytes" or "I could look at this, I can change that, I can do this here, and then we can save two bytes here as well".

Elite stripped away many familiar aspects of gaming such as time limits and lives. Why did you believe those mechanics were unnecessary for _Elite_?

Arguably *Elite* does have lives: it has one life. But it was a slightly bizarre feeling of "why three? Why not infinite?". I love games that mix it up a bit. Before *Elite*, the experience of publishers was very much about making games that were copies of arcade games and if you look at the catalogue of games immediately prior to *Elite*, there was very little experimentation. What I think we did was unlock publishers' willingness to experiment. Publishers had rejected *Elite* as a wonderful graphics demo and then came to think "we want some of that". So it's not that we inspired the developers – I think there were a lot of different experimental games that people were probably already making – but

Detailed descriptions of each planet gives you the impression of visiting exciting new worlds

EIGHT GAMES ELITE INFLUENCED

The impact of Ian Bell and David Braben's game can be seen in a great many other franchises...

GRAND THEFT AUTO III

■ Consider[illegible] successor, the explo[illegible] *Grand Theft* [illegible] to Sam and Dav[illegible] of Ian and David[illegible]

WING COMMANDER: PRIVATEER

■ [illegible]

OOLITE

■ [illegible] grown in popularity and shows *Elite*'s influence on gamers as well as developers.

X: BEYOND THE FRONTIER

■ [illegible]

FREELANCER

■ As mercenary lawless adventurer Edison Trent foraged his way through the darkne[illegible] hostile factions played a big part, whether gamers assumed the role of pirate, trader or bounty hunter.

EVE ONLINE

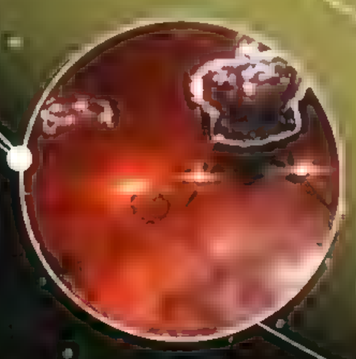
■ [illegible] interplanetary trade, do[illegible] similarities are stark.

DEEP SPACE

■ Although marred by annoying controls, *Deep Space* pitted players in a STRIX fighter and plunged them into deep space, letting them earn credits for better weapons and energy boosts.

SPACE ROGUE

■ *Space Rogue* took *Elite* and added filled-in 3D graphics, realistic physics and RPG elements. Its successful blend was



it was more that we inspired the publishers to go with the developers' ideas. For at least two to three years we saw a lot of new genres come up that hadn't and probably wouldn't have been considered by a publisher before that.

Why did you decide to include trading in the gameplay?

We brainstormed a few different ways to make you care about your ship and we were both afraid that trading would be a bit boring: "What do you mean? You're buying at a certain price and selling a bit higher? Big deal, that doesn't sound exciting; that doesn't sound like a competitor to *Space Invaders* or to *Defender*". But we tried it out and thought, actually, it is quite compelling. You care so much more if you've got a cargo of gold that you're trying to get through if you're actually making a journey, rather than just trying to survive two-and-a-half minutes.

This also allowed players to assume a role, didn't it?

Once you had the survival, it felt the score was money essentially and we contextualised all of that in terms of bounties so as soon as you had the idea of carrying cargo, all the other roles felt quite natural. "I'm attacking someone because I want their cargo" – so you're clearly a pirate. And having a bounty on your head also seemed logical. Then you could be a bounty-hunter without actually breaking the law. So the idea of law was added. It came together quite quickly.

Was there any frustration over the restrictions that the BBC Micro placed upon you?

It wasn't as bad as that. I had an Acorn Atom and I wanted to write this thing where you flew through an expanding sphere of star field, but I was horrified by how slowly it drew it in BASIC: you'd see the stars appear, undraw them and redraw them and think "oh, you've lost any persistence of vision". You had no feeling of 3D at all. I sat down to learn machine code and I thought there's got to be a game here because it's so lovely. It was an empty world, but you had such a sensation of motion and of 3D that it felt compelling and that's why I tried to work out how to draw 3D shapes. So with *Elite*, it was a bit back to front; it was very much driven by the technology, as in that came first and then it was "all right, it needs a spaceship, that would be fun to fly around and fight". And fighting in 3D actually felt great. It felt different.

"You care so much more if you've got a cargo of gold you're trying to get through, rather than just trying to survive"

DAVID BRABEN EMPHASISES THE IMPORTANCE OF ELITE'S TRADING ASPECT

II

DR WILY IS TRYING TO TAKE OVER THE WORLD WITH HIS ROBOT MASTERS, AND ONLY THE BLUE BOMBER CAN STOP THEM! FIND OUT HOW THIS SUPERB SEQUEL SURPASSED THE ORIGINAL AND LAUNCHED A BELOVED SERIES

If you ever need to convince someone that second chances are worthwhile, *Mega Man II* might just be the perfect piece of evidence.

It seems crazy to imagine now that Capcom's blue bomber is a beloved fixture of the gaming world, but the original *Mega Man* (or *Rockman*, in Japan) was not a particularly successful game, despite earning some critical praise. In fact, sales were low enough that Capcom couldn't justify the production of a sequel – in fact, it was only after an appeal to management that development was permitted, and even then the team had to work on other projects.

Faced with these limitations and a short development period, the team chose not to reinvent the wheel. *Mega Man II* adopted the shooting-heavy platform game template of its forebear, which was hardly a bad thing – it had been received well, and only needed minor adjustments to captivate players. To speed development along, the team utilised unused concepts from the original game, such as enemy designs. Capcom also invited fans to send in their

PIXEL PERFECT

AIR TIKI

SHRIMP

MET

HOT DOG

CROAKER

SNAPPER

BUROKKII

FLYING FISH

ATOMIC CHICKEN

CRABBOT

CRAZY CANNON

BUBBLE BAT

HOTHEAD

SPRINGER

ROBO RABBIT

SNIPER ARMOR

LANTERN FISH

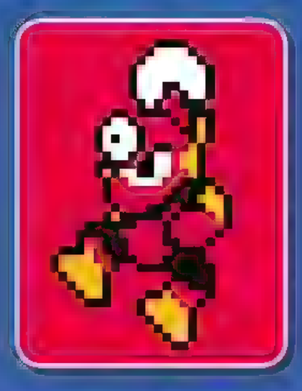
FAN FIEND

MECHA MONKEY

PROP TOP

BOSS RUSH

In order to get to Dr Wily, you're going to have to get past his hand-picked guardians – and he's picked quite a few...



METAL MAN

■ This boss hangs out in a factory, and loves to throw circular blades to chop his opponent down to size – and unfortunately, that means you.

HOW TO BEAT HIM If you get in close, he'll leap to the other side of the screen making his blades easy to dodge. Shoot him as he lands – easy.

AIR MAN

■ This windbag uses a fan to generate mini-tornado attacks. These can be pretty hard to dodge, so he's more than just hot air.

HOW TO BEAT HIM Air Man attacks a set side of the screen. Once you've dodged his barrage, he'll move and you can attack him from behind.

CRASH MAN

■ You might expect this guy to glitch the game, but he's actually a mad bomber with a real appetite for destruction – a truly dangerous foe.

HOW TO BEAT HIM Crash Man jumps and retaliates with a bomb when you shoot. We'd advise you to use the Air Shooter against him.

BUBBLE MAN

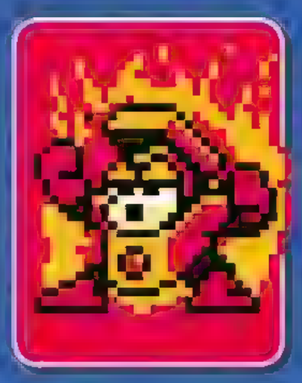
■ We're not quite sure what's supposed to be so deadly about bubbles – maybe corrosion? Still, this chap puts up a good fight.

HOW TO BEAT HIM Bubble Man fires bubbles in a wave pattern, but these are pretty easy to dodge since the fight is underwater.

HEAT MAN

■ This hothead can turn himself into a shooting flame, and has a burning desire to see your energy bar go up in smoke.

HOW TO BEAT HIM Heat Man will fire some shots, then blaze across the screen. To cool him off, we'd recommend using the Bubble Lead.



WOOD MAN

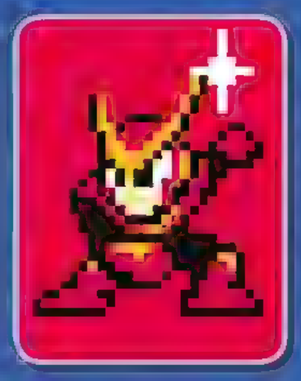
■ No, not a lumberjack – this oddball is genuinely threatening thanks to his ability to cloak himself with leaves while still attacking you.

HOW TO BEAT HIM As well as shooting leaves at you, Wood Man will drop them from above. With Atomic Fire, you can take him out.

FLASH MAN

■ Thankfully, indecent exposure isn't what this Robot Master is all about – instead, he rather likes stopping time to put Mega Man on the back foot.

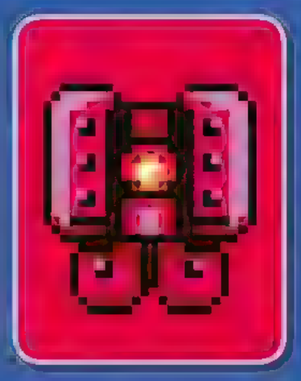
HOW TO BEAT HIM He leaps about the screen firing at you and stopping time to confound you. The flexibility of the Metal Blade is your friend here.



QUICK MAN

■ This speed freak likes to jump around and throw boomerangs at Mega Man – an odd method of attack, but one which proves surprisingly effective.

HOW TO BEAT HIM This guy isn't easy to topple, but he can be defeated relatively quickly with smart use of the Crash Bomb.



PICOPICO-KUN

■ The second line of defence at Wily's fortress. This enemy isn't big, but it comes in numbers and it only gets tougher to beat as time goes on.

HOW TO BEAT HIM Use the Metal Blade for aiming flexibility, or if you're feeling spicy, the Bubble Lead will inflict a one-hit kill.

MECHA DRAGON

■ The first guardian of Dr Wily's lair is this large and rather terrifying piece of flying, fire-breathing machinery.

HOW TO BEAT HIM Don't bother attacking until the dragon has stopped chasing you. Once you're one-on-one, you can use your regular arm cannon to defeat it – just time your jumps well to avoid the fireballs it shoots.

BOOBEAM TRAP

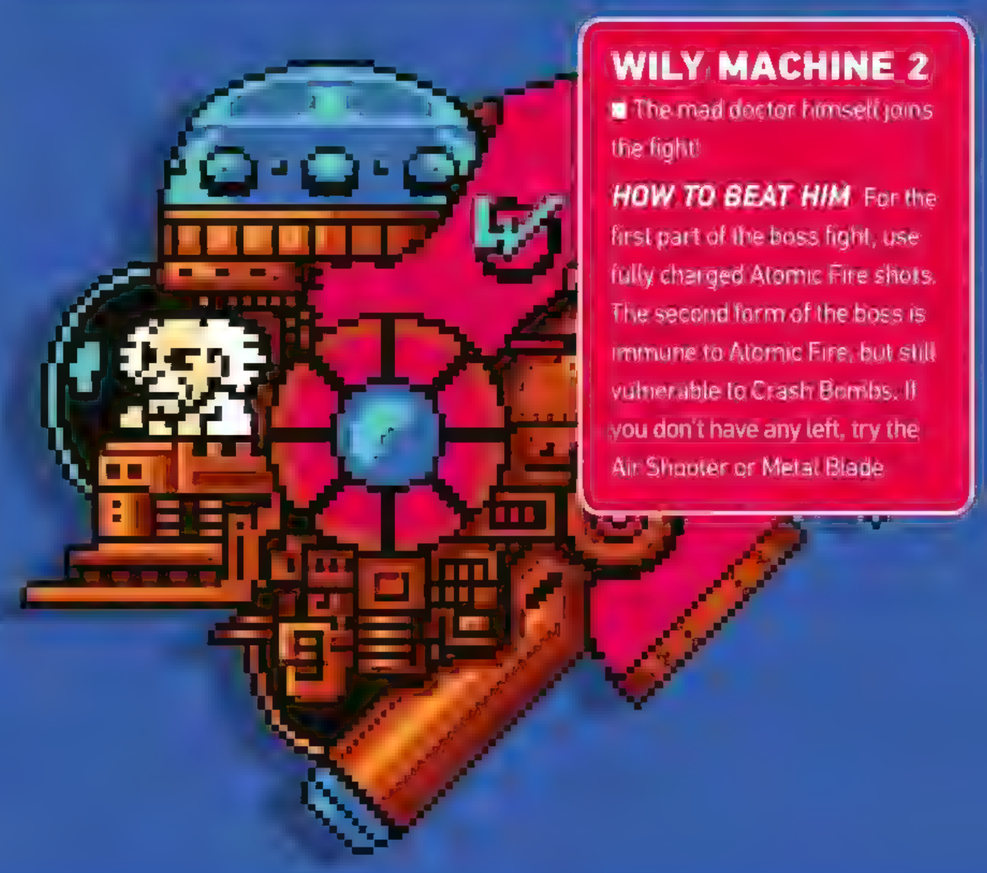
■ The most unusual boss in the game, consisting of wall-mounted laser cannons, and one of Wily's final traps.

HOW TO BEAT HIM Strategy is needed here. You have seven Crash Bombs, and you need all of them – two to destroy walls, and five to destroy the beam cannons. Don't waste your ammo!

GUTS TANK

■ Boss three in Wily's defensive line is this lumbering thing. It shoots projectiles from its mouth and releases enemies from its chest.

HOW TO BEAT HIM The Quick Boomerang is probably the best weapon to use here. To damage Guts Tank, you need to attack its head. You might wish to stand atop the tank's treads before jumping.



WILY MACHINE 2

■ The mad doctor himself joins the fight!

HOW TO BEAT HIM For the first part of the boss fight, use fully charged Atomic Fire shots. The second form of the boss is immune to Atomic Fire, but still vulnerable to Crash Bombs. If you don't have any left, try the Air Shooter or Metal Blade.

ALIEN

■ Could Dr Wily have been an impostor? It appears so as he transforms into the Alien, Mega Man's final foe. It flies about in a figure of eight pattern.

HOW TO BEAT HIM Only the Bubble Lead will damage the alien. Not only are the other weapons ineffective, they'll actively hinder your efforts by refilling the alien's health!

> **A non-linear structure might not seem like a big deal, but it wasn't common in the Eighties**

concepts for Robot Masters – the mechanical bosses of the *Mega Man* world – and used tweaked versions of those in the game.

The setup for the game is simple. Following his defeat in the previous game, series antagonist Dr Wily decides to regroup and take out Mega Man. However, instead of taking over other robots, this time Wily has built his own Robot Masters: Air Man, Bubble Man, Crash Man, Flash Man, Heat Man, Metal Man, Quick Man and Wood Man. The benevolent Dr Light sends Mega Man off to defeat them, and put the dastardly Wily back in his place.

Each of the eight Robot Masters has a level which fits their overall character – Metal Man's stage is an industrial area full of conveyor belts and mechanical hazards, whereas Air Man's stage requires you to negotiate sky-high moving platforms over bottomless pits. Likewise, Bubble Man's stage dips underwater and Quick Man's stage is filled with hazards that strike suddenly. The end of each stage involves a showdown with the boss, and victory allows you to claim a cool new power-up. Since *Mega Man II* inherits a nonlinear structure from the original, you can choose to tackle these stages in any order.

In today's environment of open world, open-ended games, a nonlinear structure might not seem like a big deal, but it wasn't at all common in the late Eighties. What's more, it was a blessing – *Mega Man II* is quite difficult, but the challenges are varied. You can choose to prioritise what you're good at if you're more skilled at certain tasks, such as precision platforming or combat. Alternatively, you can tailor your style to the power-up rewards you get for beating bosses – with the right weapon, you can tear the Robot Masters to shreds in a matter of seconds, making this a very viable

» Things can get hectic when enemies like the Lantern Fish spawn new enemies of their own.

MEGA SPEEDS

This speedrunner, known on Twitch and Twitter as cyghfer, can beat the game in just 26:37!

When did you first encounter *Mega Man II* and what did you think of it?
I knew of *Mega Man* as a kid, but since I started having an impact on our household's videogame purchases during the N64 era, it wasn't a series that was really on my radar. It was much later, during a period of exploring NES games via emulation, that I played through all six NES *Mega Man* titles. *Mega Man II* definitely made the biggest impression on me.

What makes the game well-suited to speedrunning?
Mega Man II is a game with simple movement on the surface but a wealth of deceptively difficult tricks when you attempt to push the game to its limit. The most fundamental trick used to progress quickly through the game is the horizontal zip, where you manoeuvre Mega Man into a ceiling in one of several ways and then kick off a sequence where Mega Man moves rightward one tile per frame – that is to say, very fast.

One of the other main attractions of the *Mega Man II* speedrun is its varied and interesting set of boss fights. Almost every Robot Master fight in the game requires interesting and difficult movement to take down optimally, or to react favourably to a wide array of random patterns. *Mega Man II* is among the most competitive speedruns from the 8-bit/16-bit era, and it is a game that demands persistence and rigor from the player.

How much practice have you put in to reach your personal best of 26:37?
I would estimate that my total amount of time put into the *Mega Man II* speedrun is around 2,000 hours, give or take 500 in either direction. This includes initially learning the game, investigating possible strategy and route improvements, practicing the game, and doing runs. Probably around 40 per cent of that consists of practice.

What are the common stumbling points when you're trying to put together a run?
The most notable sections in the run where run-ending mistakes occur are the 'open air' section in the Air Man stage, the start of the Crash Man stage, the three screens with the fire-breathing dogs in Wood Man, the major tricks in Wily 1, and many screens in Wily 4. However, there are many more spots that won't usually outright 'kill' a run, but where significant mistakes still occur frequently: the rest of the Clash Man stage, the Quick Man stage fight, the 'item-2 zip' in the Bubble Man stage, more spots in Wily 4, and many spots in the Wily 5 refights. Really, the run can die anywhere.

Do you think there's much scope for improvement on your time, and do you plan to try beating it?
A few years ago, these kinds of times would have been considered nearly unbeatable, and all competition would have more or less died out barring significant new strategy discoveries. However, our collective level of consistency and knowledge has risen to the point where the frontier for a realistic time in *Mega Man II* appears to be somewhere around 26:25.

When I returned to *Mega Man II* speedrunning late last year, my best was 27:01. I pushed hard to lower my best time to the 26:37 I have today, and I needed a break from the grind. But I've come to realize that pushing myself in *Mega Man II* is one of the endeavours that gives me the most meaning and joy in life.

POWER-UPS

You'll need some help to beat Dr Wily, and these pick-ups prove to be just what you need

ITEMS

EXTRA LIFE

■ The most vital pick-up in a game of this difficulty! Grab a Mega Man head and you'll get an extra chance to beat the game

E-TANK

■ Treasure these brilliant pick-ups – they'll give you a full energy bar on demand, which can be as good as an extra life

ENERGY REFILL

■ These come in two sizes – pellets refill a small amount of energy, while capsules give you a bigger boost

WEAPON ENERGY REFILL

■ Much like the energy refills, but for the weapon you're currently using

WEAPONS

METAL BLADE

■ Not only does this absolutely shred a number of bosses it allows Mega Man to fire in various directions, making it an outstanding weapon

AIR SHOOTER

■ This tornado attack is great for taking out airborne enemies as it rises up diagonally once it's been fired. It's situational, but good when necessary

ATOMIC FIRE

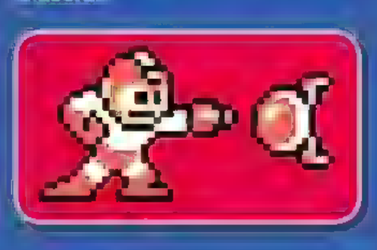
■ This weapon allows you to unleash a powerful charged shot that can devastate enemies, but beware: charged shots require extra energy

LEAF SHIELD

■ This weapon encircles Mega Man in protective leaves, blocking most minor attacks, and can be hurled at enemies once used

CRASH BOMBER

■ This works as normal if fired straight at a baddie, but it can attach to walls and other objects for a delayed explosion, which is useful

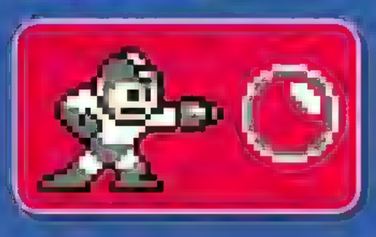


TIME STOPPER

■ This one does exactly what it says on the tin – time is frozen and any nearby enemies along with it. You can't attack while the Time Stopper is working, though

BUBBLE LEAD

■ A bubble arcs out of your cannon and travels along the floor, damaging whatever it comes into contact with. Good for hitting tiny enemies



ITEM 1

■ This allows Mega Man to create a temporary platform that floats gently upwards for a few seconds. Up to three can be used at once

QUICK BOOMERANG

■ Useful in close-quarters combat due to its limited range. When fired, a barrage of pink boomerangs appears

ITEM 3

■ This item gives Mega Man the ability to create wall-climbing platforms – less useful than the other two, but situationally excellent

ITEM 2

■ Item 2 enables Mega Man to create a platform which rockets off in the direction it's facing after a moment to allow Mega Man to get on

strategy. This only lasts so long, though – once the Robot Masters are taken care of and Mega Man is fully powered up, your final challenge is a linear run through Wily's lair on the way to the ultimate fight.

The one major complaint that many players had about the original *Mega Man* was that it was too difficult. *Mega Man II* includes a number of features to reduce the frustration factor. Perhaps the most important is the E-Tank, an iconic item that can be picked up and used later to fully restore energy – a literal lifesaver when used judiciously, and the only way to gain energy during a boss fight. Then there are Item 1, Item 2 and Item 3 – dull names for sure, but they allow for the creation of platforms that can allow Mega Man to skip past tricky parts of stages, and access otherwise unreachable items. Further still, the international release has a difficulty setting which reduces the resilience of enemies compared to the Japanese games. It's still not an easy game, and some sections remain infuriating, but it's certainly far more reasonable than the original.

That reduced frustration allowed players to more easily appreciate not only playing the game, but the sights and sounds along the way – and they were special in their own right. The series' signature cartoon graphics are best expressed by the larger sprites, but even the relatively small ones like the Robot Masters are packed with personality. As for the music, the tunes are amongst the best conjured from the NES – high energy, memorable ditties with an upbeat feel that matches the on-screen action well. These have inspired a huge number of fan remixes and covers, and are frequently cited when discussing classic videogame music.

Mega Man II was released in Japan in December 1988, and like its predecessor it was popular with the critics. *Famitsu*'s four reviewers gave scores of 6, 7, 8 and 7 for a total of 28/40. Western reviews were more enthusiastic, though. All four reviewers in *Electronic Gaming Monthly* offered the game 8/10 when the game arrived in the US in mid-1989. When the game finally arrived in the UK at the beginning of 1991, reviewers were even more effusive in their praise.

» Good tactics are essential to beating the bosses, including correct weapon selection.

“The Mega Man series as a whole owes its continued existence to Mega Man II’s success”

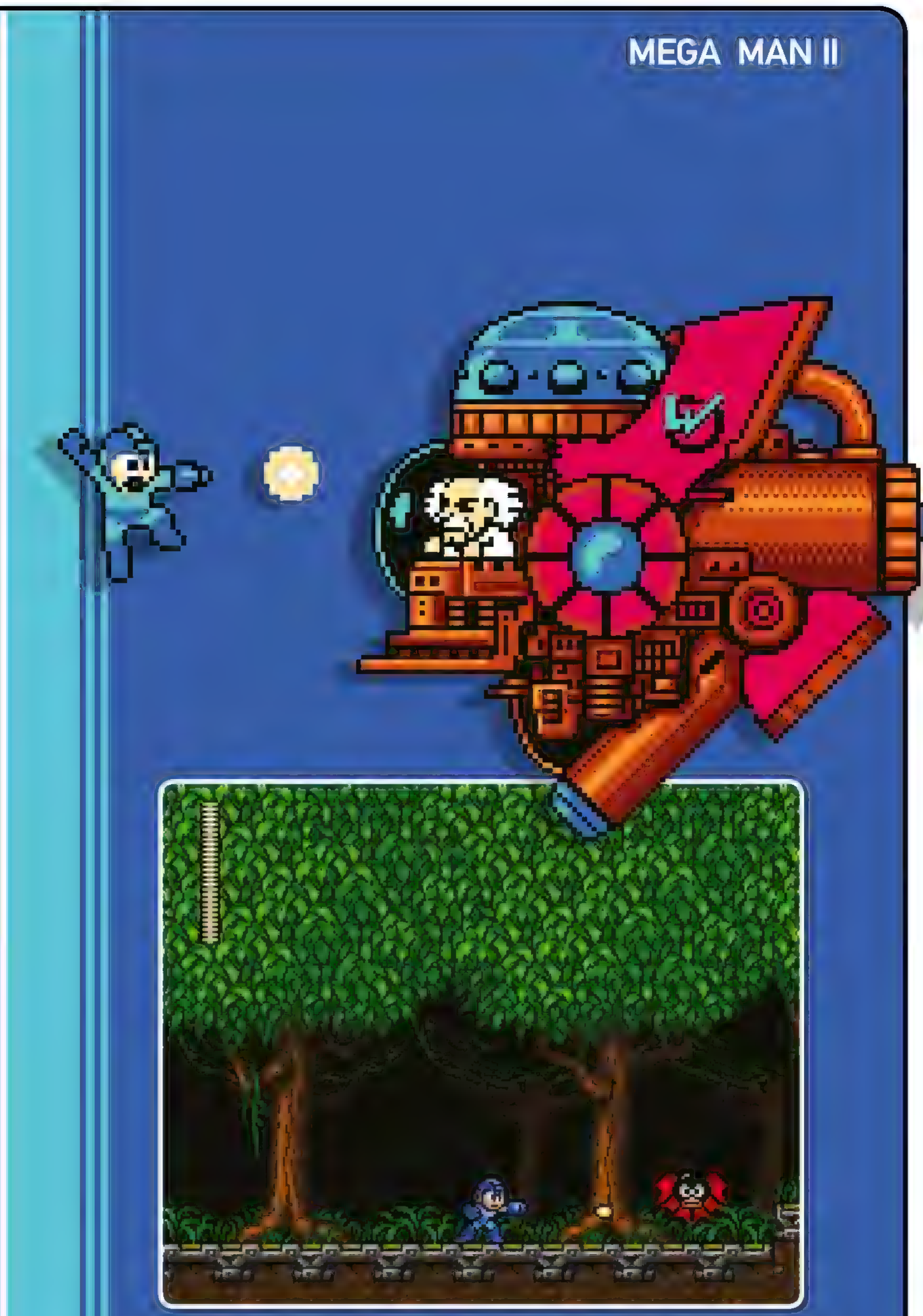
CVG offered the game 95%, and *Mean Machines* also gave it 95%, with reviewer Jaz Rignall commenting that it was “one of the finest platform games ever seen.” Zero rated the game 96% and gave a Console Classic award, stating that it has “playability just coming out of its ears.”

This time around though, the sales were there to match. *Mega Man II* would ultimately sell 1.51 million units, making it one of Capcom’s best-selling games ever at that point in time. Only one Capcom NES game sold more copies (that being *Ghosts ‘N’ Goblins*, with 1.64 million units), and it remains the best-selling game in the *Mega Man* series – but that’s not for a lack of releases, as Capcom’s mascot has starred in literally dozens of games since.

The *Mega Man* series as a whole owes its continued existence to *Mega Man II*’s success – had sales once again failed to meet expectations, that would have been it for the blue bomber. Yet with only some small tweaks, the team was able to follow a struggling game into a smash hit, which is something all too rarely seen today. The result was that *Mega Man* would make four more NES appearances, sticking with the 8-bit platform up to 1993 and creating an unbreakable association in the process – so much so that *Mega Man 9* and *Mega Man 10* went back to the NES style despite being developed for the Wii, PS3 and Xbox 360. As for *Mega Man II* itself, it has been featured in the *Mega Man Anniversary Collection* and *Mega Man Legacy Collection* compilations, making it easy to track down today.

So if you’re already a fan, by this point you’ve probably got a hankering to negotiate the deadly spikes of Bubble Man’s stage again already. But if you’re not a fan, or you’d previously dismissed the game for its admittedly stiff challenge, it’s well worth giving the game another chance. After all, we wouldn’t be talking about this if second chances didn’t lead to good things, would we?

» We used to like rabbits, until this one started firing carrots at us



THE WILY WARS

Mega Man II was given a complete overhaul to appear on the Mega Drive – does it still hold up?

While the SNES was receiving brand-new *Mega Man* experiences in 1994, Sega fans who hadn’t yet been acquainted with the character needed to be brought up to speed. As a result, Capcom created *Mega Man: The Wily Wars* (or *Rockman Mega World* in Japan), a compilation containing enhanced remakes of the first three *Mega Man* games and some extra exclusive bosses.

The version of *Mega Man II* in *The Wily Wars* is based on the Japanese release, which means that the difficulty is equivalent to the ‘Difficult’ mode in the NES game. It has been given the full next-gen treatment with completely redrawn graphics, although the arranged soundtrack seems to lose some of the energy of the original compositions. Passwords are out, and battery saves are in.

Mega Man: The Wily Wars is now an expensive and sought-after game – it’s rare in Japan and Europe, and there’s no American release as the game was exclusive to Sega Channel in this region.

FINAL FIGHT

1989 was a time for action – not words – and Capcom proved violence was the answer with one of the most revered kick arse-a-thons ever released. Final Fight's designer, Akira Nishitani, opened the doors to his digital dojo and showed us the secret ways of beat-'em-up-jitsu

IN THE KNOW

» **PUBLISHER:** CAPCOM

» **DEVELOPER:** CAPCOM

» **RELEASED:** 1989

» **PLATFORM:** ARCADE, VARIOUS

» **GENRE:** BEAT-'EM-UP

It wasn't the first 2D, scrolling, two-player co-operative fighting game, and it certainly wasn't the last. Viewed from afar with a slightly cynical tilt of an indifferent head, it wouldn't take much to brand *Final Fight* with the same iron as all the other beat-em-ups from the arcade's silver age. But through a careful and considered analysis of this intricate genre, Capcom brilliantly distilled the art of the beat-'em-up to create the most refined example ever seen.

We put on our sparring gloves and talked to the co-designer and programmer of *Final Fight*, the high-spirited and enigmatic Akira Nishitani.

"I was born in Tokyo, and as long as I can remember, I always loved to play games: board games, card games... I liked to play any kind of game!" Nishitani begins. "While I was a high school student I got a part time job as writer for Beep! magazine, mainly concentrating on arcade games. After I graduated from high school, I started to work as a planner. This job has become very important in Japanese game design, but back then it was still quite unusual."

A passion for games and an organic progression toward the arcade is a similar story to that of many accomplished designers we know today. And clearly this passion has not waned. He continues: "These days I play games more as work than as a hobby, but I still play everyday. I think it's very important to someone involved in the industry, although I secretly aspire to be a 'super grey player'! I'm determined to be better than all those young players!" he laughs, striking an accord with retro gamers the world over with his wonderfully esoteric Japanese phrase, "super grey player" (this is a literal translation which is simply too delicious to wilfully alter, but is perhaps best interpreted as "mature, yet respected, gamer").

» Akira Nishitani motivates his troops at Arika – the game developer he established after leaving Capcom

When *Final Fight* was being conceived, it was a time of change for the entire videogame industry, and Capcom played no small part in ushering in that new age. Akira told us a little about those embryonic days at one of the most historically significant videogame developers.

"[Capcom] was an incredibly lively place, although there weren't actually that many employees when I first started work there. It was great because everyone felt like we had the opportunity to create our own future.

"At that time, these kinds of action and fighting games had only just become popular, so we decided it was the right time to make our own. They had been

» Haggar attempts to persuade Belger, head of the Mad Gear Gang, to stop bothering his daughter.

» The arcade flyer depicting the short lived *Street Fighter '89* concept.

DEVELOPER HIGHLIGHTS

X-MEN:CHILDRENOFTHEATOM
SYSTEMS: ARCADE
YEAR: 1994

FORGOTTEN WORLDS
SYSTEMS: ARCADE
YEAR: 1988

STREET FIGHTER II: THE WORLD WARRIOR
SYSTEMS: ARCADE
YEAR: 1991

» What does it say about a modern day sequel when the creator of the original has never even heard of it?

around for a long time of course, but to be frank, I don't think these kinds of game were ever much fun for me. I looked at the style of fighting games, and thought to myself "how can I make it more interesting?" That was the beginning." he says with genuine, patriarchal emotion.

A cursory jaunt around the internet reveals what is probably the most spoken about and historically important aspect of *Final Fight*'s conception its *Street Fighter* lineage. But that family tree may not be as well rooted as it's been suggested.

It occasionally escapes our notice that the original *Street Fighter* shared little in common with its legendary offspring. *Street Fighter* had gained considerable recognition, but even by 1989 it had been severely tamed by time. There is evidence that suggests *Final Fight* was originally intended to be a sequel to the somewhat damp *Street Fighter* squib, but the monumental differences in gameplay and design somewhat belie that tenuous inheritance. Nishitani-san explained further.

"Our intention was to develop *Final Fight* as an original game in its own right – and that's what we did. However, *Street Fighter* had such a high name value, we decided to make use of its recognition and changed the name to *Street Fighter 89* for a game show where it was first displayed," explains Nishitani, quickly unravelling the knotted rope of *Final Fight*'s origin. He continues.

"At the game show, it received an excellent reception, proving even more popular than we could have hoped. But this really wasn't related to *Street Fighter*. We'd made *Final Fight* as we'd intended – with a totally different and new world view; so once its popularity had been confirmed, we decided to go back to the original name.

"If truth be told, the only thing we ever changed when testing it as *Street Fighter 89* was the logo, so it was no hardship putting things back to how they started!" he laughs.

Although the *Street Fighter* inspiration may stop at a rather abrupt and unchallenged brick wall, it's not the only pop-culture reference ardent fans have plucked from *Final Fight*'s ether. Akira explains to us how some of these popular references might have come about.

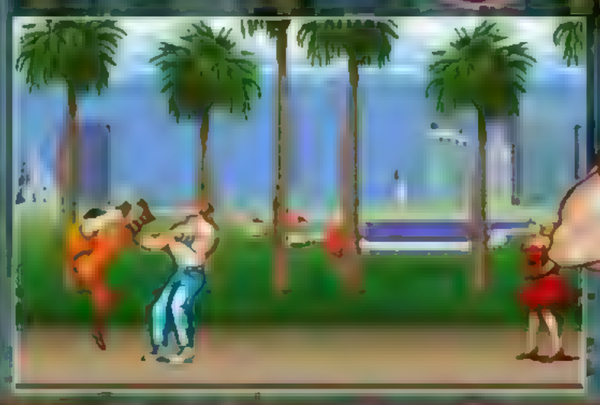
"Before we developed *Final Fight*, Capcom's president suddenly gathered us all together and said, "The future of entertainment is in movies! I'm installing ten TV screens for you. Watch as many different kinds of movies and information as you can find! And, from now on, when

RELATED GAMES AND SPIN-OFFS

ALSO IN THE SERIES

- FINAL FIGHT GUY
- MIGHTY FINAL FIGHT
- FINAL FIGHT CD
- FINAL FIGHT 2
- FINAL FIGHT 3
- FINAL FIGHT REVENGE
- FINAL FIGHT ONE
- FINAL FIGHT: STREETWISE

» Grabbing Edi's gross, used gum when you're energy level's full grants a rather spiffing 42910 points in celebration of Nishitani-san's birthday!



» Upon completion, Guy "persuades" Cody to get back together with Jessica. What are friends for?

» I suppose Roxy and Poison could be male. We were mildly concerned about getting sued by a feminist group if we beat up women in the game. Whatever you see, that's what they are!" Akira Nishitani comments, regarding the much debated gender of the enemy characters. They look like chicks to me (at least in the arcade version).

» A keen eye will notice the phrase "NiN" cropping up throughout Capcom's back catalogue, courtesy of Mr Akira Nishitani

> "If truth be told, the only thing we ever changed when testing it as Street Fighter '89 was the logo"
>
> AKIRA NISHITANI

THE BEEF BOWL

A game isn't great unless it's thoroughly infused with hidden references and Easter eggs, and Nishitani let the lid off some beauties from *Final Fight*.

"In Japan everyone knows about a technique called "alchemy". When you smashed up the bucket and drum in *Final Fight*, if you could hit the right button at the right time the items change into lump of gold or a diamond. These are worth 10,000 points each, so it's an indispensable technique for a high score chaser!

"You can get big points on level three, as well. If your character has full energy and picks up the gum which the boss, Edi E, spits out, you receive 42910 points. This is a courage bonus for taking someone else's gross, spat out gum. The reason you score that strange amount is "42910", is my date of birth – 42nd year of Showa Era [1967], September 10th. Also, if you complete the last level on just one coin, you see the special ending. In Japan, it was called the "*gyudon ending". I'd love your readers to see this awesome ending, but I don't know if foreign editions have it or not. If not, please buy the Japanese edition!"

*Gyudon: literal translation – beef bowl. Don't ask me!

» For those of you who don't have a Japanese version of the arcade machine (shame on you), here's a few clips of the gyudon ending. We can only guess who's who...

you develop a game, you must make its image first!" He ordered us just like that, so from that point on we approached our planning and design as if it were a movie." recalls Akira about the meeting which would not only influence Capcom, but other Japanese developers at the time, including long-term rivals SNK.

This remark resounds profoundly with another well spoken rumour about the origins of *Final Fight*'s back story. A considerable number of parallels can be drawn between the game and the 1984 cheese-ball gangster movie, *Streets Of Fire*. Without hesitation (or regard for a conscious breach of Japanese etiquette), the question of their possible relationship is fired at Mr Nishitani and we're eager to hear his answer. There's a disconcerting pause before his answer arrives although, mercifully, it carries his good humoured lilt.

"Hmm. At the time, we certainly weren't aware of *Streets Of Fire*, but I've just Googled it and there does indeed seem to be something familiar about it. But then again, this style of story was very popular back then. Lots of fighting games made use of it. I guess we were part of that crowd!" he chuckles, apparently impressed by the investigative prowess fans of his game have gone to over the years in order to uncover every last little detail.

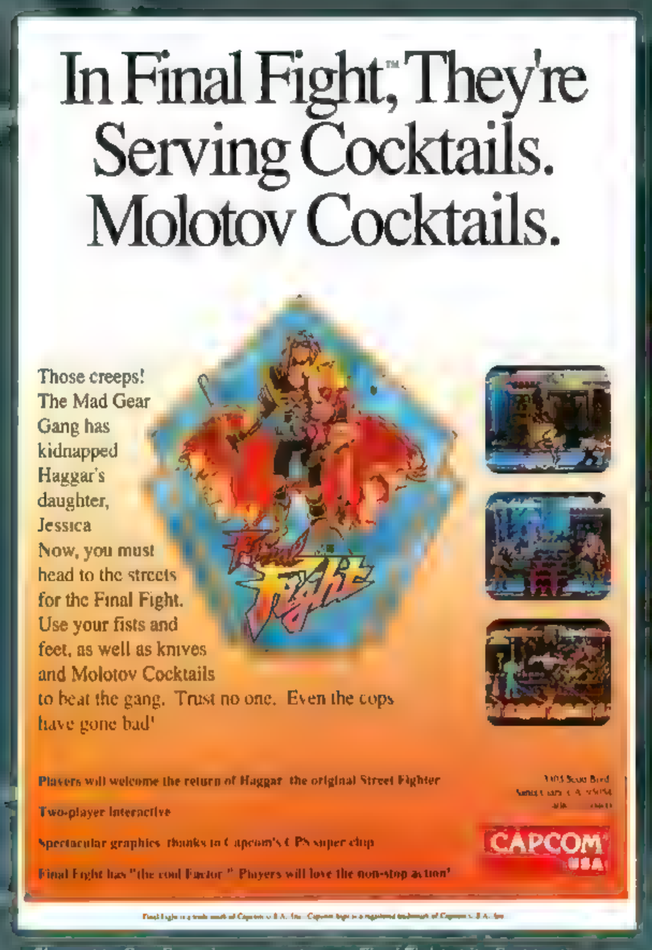
While we were on the subject, I decided to clarify a couple of other possible allusions from *Final Fight*'s antagonistic cast – specifically Andore, look-alike of the late American wrestler Andre the Giant, and the numerous rock band references that appear throughout the game.

"I have a friend whose nickname is "Andre", and it's actually him who the characters in *Final Fight* are named after," he tells us. "Of course, I have to admit those characters do look like Andre the Giant, though. Also, we had a woman co-worker who we asked to list as many names as she could think of for our characters. She was really into rock music, so that's why lots of them turned out to be named after band members!"

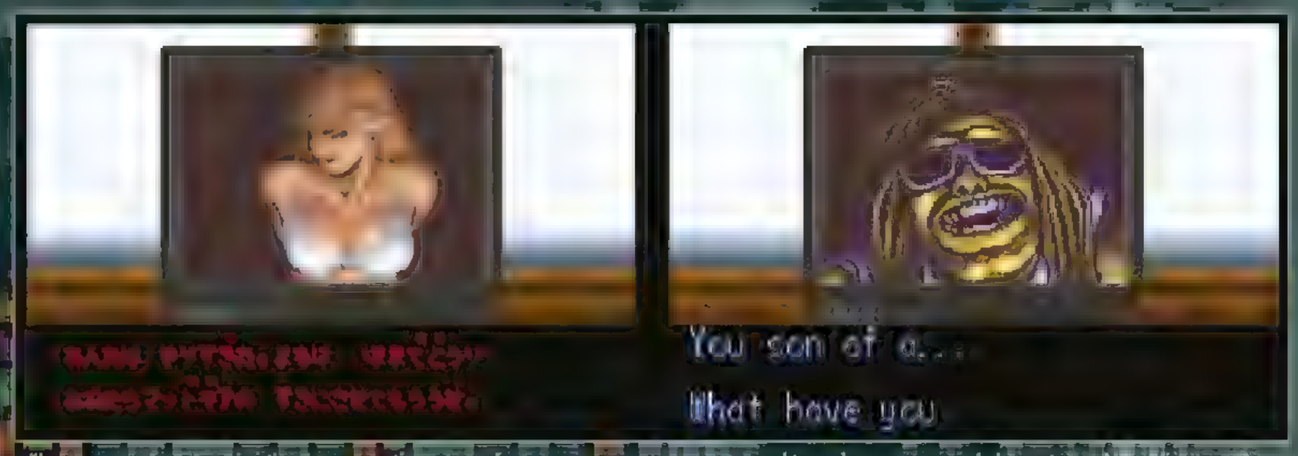
So it would seem that, despite its clear and defining integration of Eighties pop culture, *Final Fight* is more a part of that ethos than a collection of references to it.

While the basic premise of *Final Fight* might not have blazed any particularly new trails, the gameplay mechanics certainly redefined the way we interacted with the beat-'em-up principle. Of particular note in *Final Fight* are the dramatic differences of the playable characters Guy, Cody and Haggar. The three protagonists offered distinctly individual gaming experiences, allowing players differing gameplay depending on their mood or fighting preference. Whether the player preferred speed and skill over brute force and ignorance, *Final Fight* was the first beat-'em-up to offer that choice.

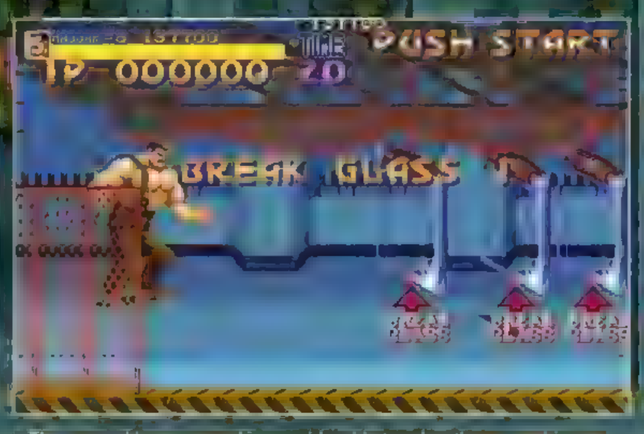
"This was a feature that took quite a long time to implement. In the end, we prepared the three characters you see in the game as we thought they offered the greatest choice. It just wouldn't be



"I went to San Francisco once to see *Final Fight* at its first test location. I was so excited, as it was the first time I'd ever been abroad!" Akira Nishitani.



"I also remember changing the demonstration screen for an overseas version, to try and tone down any sexual elements." Akira Nishitani. On the left, the Japanese attract screen (and it certainly does!). On the right, the Mary Whitehouse version.



The second bonus round is considerable tougher than smashing up the car. Break the glass without getting close enough for it to knock your teeth out.

I heard one-on-one *Final Fight Revenge* was actually pretty damn good, even if it went mostly unnoticed.

"This is actually the first time I've ever heard of Final Fight: Streetwise! Google is really useful!"

as exciting if they didn't each have a different journey through the game", Nishitani explains.

Since each playable character had their own moves and their own stylings, the character design work was effectively triple what a developer would expect. This quality of design and depth of dedication is visible throughout *Final Fight*, resulting in the some of the finest character and background graphics a beat-'em-up had ever seen.

"My real challenge was the deep, pseudo 3D space, and how the large sprites interacted with it. There are so many concerns when it comes to adding details to a level. For example, if we add an oil drum, it adds all kinds of processing difficulties. Can the characters climb on the drum? If so, what happens when another character destroys the drum while they're stood on it? Can we have one drum on top of another? It creates a lot of problems, but these details are important and we wanted to create a high quality game!" Akira laughs, fondly reminiscing about difficulties that, at the time, would undoubtedly not have seemed quite so funny. And yet he's quite correct – true greatness is in the small details. He continues: "Visually I wanted big and detailed characters. I'd liked to have added more enemies and animation frames, and even though *Final Fight* had very good optimising software and the CPS1 board was technically superior, there were as many budgetary and time limitations as there are these days.

"However, I believe that despite those limitations, *Final Fight* was still the best performance game of the time."

Final Fight was only really brought back to the arcades in spirit, and not by way of a direct sequel (most notably in the superb *Aliens Vs Predator*). Its real legacy lies with the Super Nintendo, though conversions and sequels have seen both success and controversy. One of the weakest attempts to resurecct the series was *Final Fight: Streetwise* for the Xbox and PS2, though reviews were not kind. We hoped Akira might be able to explain the somewhat shaky philosophy behind this most recent update and why it might not have worked.

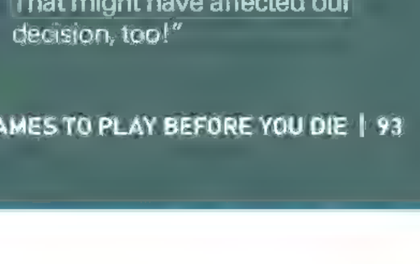
One of the best conversions of *Final Fight* is to be found on the Game Boy Advance.

"I was only involved in the development of the original *Final Fight* coin-op," says Nishitani, once again turning to his computer for a bit of on-the-fly research, "and this is actually the first time I've ever heard of *Final Fight: Streetwise*! Wow! I see it's certainly based on our old game, but I'd never heard of it until now. Google is really useful!" he laughs, showing no signs of the disgruntlement he's more than entitled to harbour toward such uninspired use of his original work.

Despite the industry's trend for avoiding the wealth of established talent when it comes to reimagining classic games, Akira still has a fond place in his heart for *Final Fight*, and shares a glimmer of hope for a sequel that might finally do justice to the original.

"*Final Fight* is an immortal game, but lately I hardly see any kind of action games. We once again need more interesting varieties, just as we did when we created *Final Fight*. I have lots of detailed ideas, and if I had the chance I'd love to develop a new version."

Eep!



SMASHING!

Game designers had dipped their toes in the shallow pool of between-level-bonus-rounds before, but none had delivered such delectable lashings of unnecessary violence as in *Final Fight*. Nishintani-san told us more about car repairs on the streets of Metro City.

"We definitely wanted to have crash bonus round, and had many ideas, like destroying a piano and a house. There was another idea we developed but didn't use in the end, where players had to beat bad guys until they were buried in the ground up to their shoulders! We decided in the end that smashing up a car would work better visually, however.

"Also, around that time, I don't remember the exact details but there was something in the news about Japanese cars being destroyed because of some Japan-bashing sentiment. That might have affected our decision, too!"

100 GAMES TO PLAY BEFORE YOU DIE

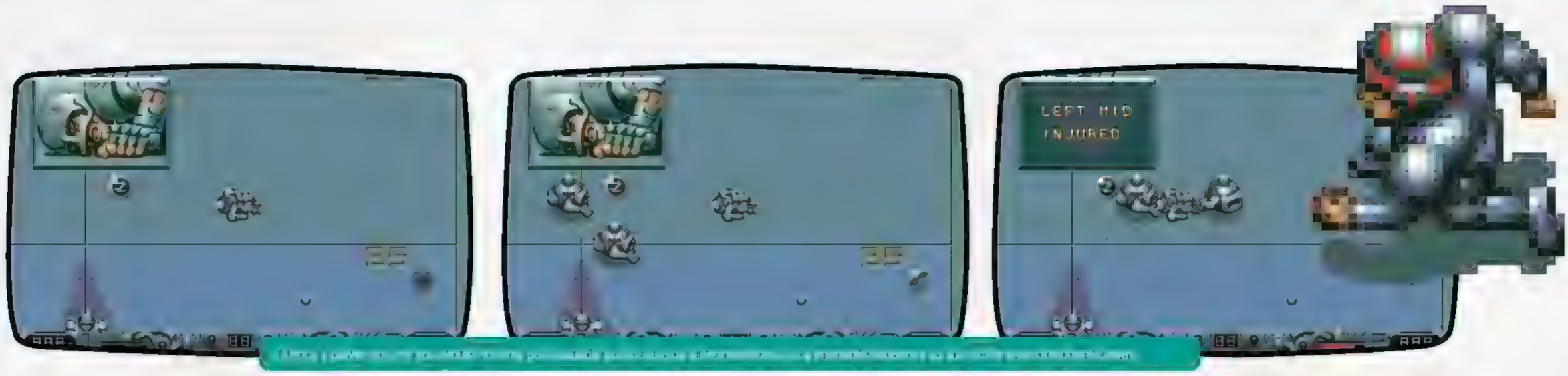
SPEEDBALL 2

BRUTAL DELUXE

A classic that's so good it's made the top of two of our reader surveys. With that in mind we felt it was high time that David Crookes interviewed Mike Montgomery and Robert Trevellyan about their smash hit sports game

IN THE KNOW

- **PUBLISHER:** IMAGE WORKS
- **DEVELOPER:** THE BITMAP BROTHERS
- **RELEASED:** 1990
- **PLATFORM:** VARIOUS
- **GENRE:** FUTURISTIC SPORTS



Ice cream, ice cream," shouts the seller, the words cutting through the tension as the seconds tick away of the second half with only five points putting distance between the opposing sides. The metal thud of the ball reverberates as the players dart mesmerisingly around the cold, grey arena. But then, as a sliding tackle knocks a hapless opponent to the floor, there is a moment of stone-hearted relief as he fails to get back up again. With the medics carrying him off, Brutal Deluxe are perversely awarded ten points and the advantage swings 180 degrees. In exhaustion, the gamer puts down a battered joystick and, with a wipe of a sweaty hand, manages a triumphant, if not exhausted, smile.

This is *Speedball 2*, a game developed by the acclaimed Bitmap Brothers which was released in 1990, two years after its predecessor had caught the mass attention of players. This time around the game was set in 2105, a short while after the sport was said to have to have been reborn in an attempt to regain public interest following years of corruption and violence. As the opening titles explained, the fictional sport had been forced underground to fester in unregulated chaos. *Speedball 2* was its saviour and it brought with it a whole new set of rules.

Players who expected a straightforward sequel to *Speedball* were pleasantly surprised by the series' second outing. According to The Bitmap Brothers' co-founder Mike Montgomery, the sequel had been completely rewritten. Although the ethos of the earlier incarnation had been retained, *Speedball 2* brought with it new mechanics and an improved feature set. It also introduced Brutal Deluxe, a badly performing team that the player had to turn into champions.

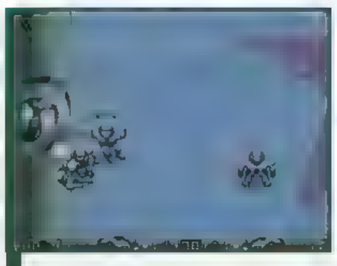
In order to achieve the new feel to the game, The Bitmap Brothers made changes to the original development team. Dan Malone replaced Mark Coleman as the artist, and Richard Joseph replaced David Whittaker as the musician. Robert Trevellyan was given the role of coder, with additional input from Mike who had assumed a greater programming role during the first game. This time out, the design was credited to Bitmap Brothers co-founder Eric Matthews.

"I think the whole concept of *Speedball 2* was different," says Mike. "What we wanted to do with *Speedball 2* was all of the things that we really didn't have time to do with *Speedball*. So the viewpoint was slightly changed, the graphics were a lot better – it was a different game to a certain extent, wasn't it? I think *Speedball 2* was just a natural progression."

Speedball 2 was Robert's first published game. Although he had been a keen hobbyist programmer, his one previous stab at a game, for Electric Dreams in Southampton, had been canned after six months but the lead artist on that title had put Robert in touch with The Bitmap Brothers. The team was impressed by an eight-way scrolling demo which Robert had shown them running on a Commodore 64. "It convinced them that I was worth a try," he admits.

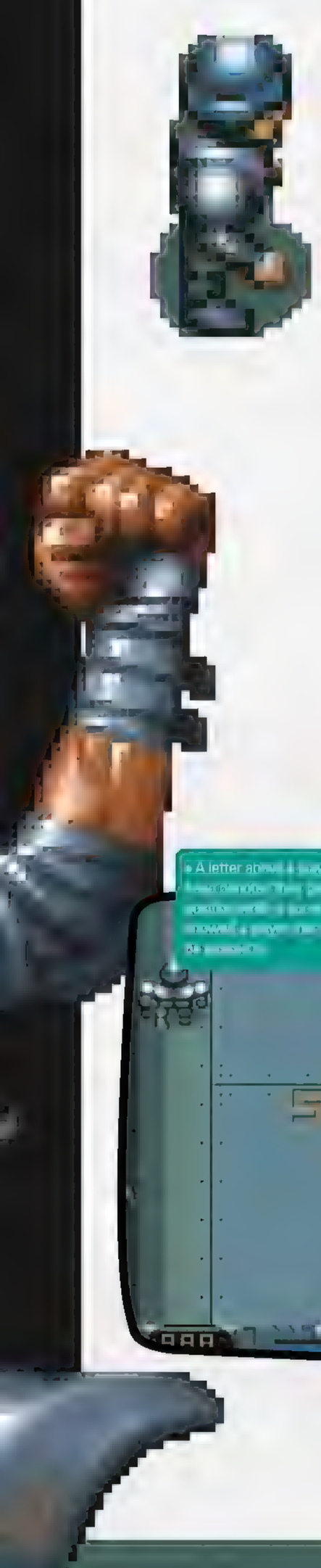
The game's lead platform was the Atari ST. "It was the less powerful of the machines, certainly when compared to the Amiga, so the idea was to make it great on the ST and then enhance it on Commodore's machine," says Robert. He said the brief was to address "all of the things that had felt limited in the first game." One of those was the playing area, which, in the original, had very little width and would simply involve players trying to get the ball up towards the goal in order to score a goal.

"In the first game, you only ever played 'up' the screen but in the second they wanted to expand ▶



"SPEEDBALL 101"

■ *Speedball 2* is a top-down, 2D, futuristic, deep and violent game that is part-ice hockey and part-American football. Each smooth-scrolling match is split into two halves lasting 90 seconds each, during which players score as many goals as possible while grabbing extra points by nobbling the opposition or aiming the ball at point-scoring stars. Good use of tactics and the score multiplier are essential to win a game.



FEELING HUNGRY? IT'S RICHARD JOSEPH'S FAULT

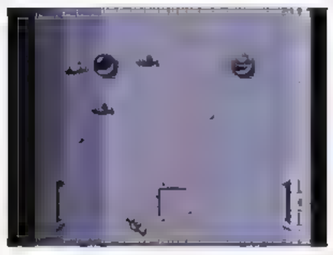
Discover why Speedball 2 loves its icecream

Quite aside from the game's intro being a compressed version of a song called Brutal Deluxe by a band called Nation 12 (a collaboration between the electronic pioneer John Foxx and Tim Simenon from Bomb The Bass), Speedball 2 was able to showcase the talents of the gaming audio legend Richard Joseph who died in 2007 at the age of 53 following a short battle against cancer. His approach to the problem of creating game music – "logging drawn sequences" – was inspiring.

"Richard came in one day and said, 'Mike, I don't really want to show this audio to anyone else until you have listened to it and given your approval because I'm not really sure'," recalls Mike. "So I said, 'okay, come on', and we went into another room. He played that intro – 'ice cream, ice cream' and I went, 'shit, that has just to go in'. There's no argument about it, I don't care what anyone else says, that has to go in full stop. And of course it became a famous phrase in the industry, and I even had it on my door-bell at some point. Richard was just a genius like that and we worked so well together. It was a shame that he passed away. What would he be doing now?"

HISTORY OF SPEEDBALL

Your guide to the short-lived series



SPEEDBALL

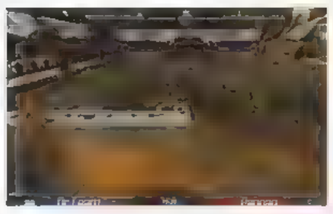
■ The Bitmap Brothers planned a game based on real tennis, the sport from which lawn tennis is derived but Mastertronic decided against it. After hitting the pub and redesigning the game on the back of a cigarette packet, *Speedball* was born. Praised for its action, it was also criticised for jerky scrolling.

SPEEDBALL 2: BRUTAL DELUXE

■ This eight-directional frantic sweat-'em-up of catch-and-throw was a huge improvement on the first game, racking up the tension by emphasising the amassing of points over the simplicity of scoring goals, and providing a level of depth rarely seen in any sports game, let alone one based on a fictional pursuit.

SPEEDBALL 2100

■ *Speedball 2100* was a 3D version of the series for the PlayStation, "but it didn't do too well for various reasons," says Mike Montgomery. It concentrated too much on side issues, such as the skin and hair colour of its players, and less so on refining the on-pitch experience for a new next-generation audience.



SPEEDBALL 2 TOURNAMENT

■ Released in 2007 on Steam, the same year that a faithful remake of *Brutal Deluxe* hit Xbox Live Arcade, *Speedball 2 Tournament* rode on the back of a *Half-Life 2* mod called *SourceBall*. Mike Montgomery oversaw development and the polygon characters looked markedly different. It brought online play to the game too.

SPEEDBALL 2: EVOLUTION

■ As with many retro games, *Speedball 2* found its way to iOS, Android and PSP ,and proved itself to be a timeless gem. Despite some disappointing AI, the translation was a success, allowing for the use of the virtual joystick while supporting the accelerometer of mobile phones.

SPEEDBALL 2 HD

■ The relatively recent release of this PC game gave the original game a glossy graphical sheen. It had input from Mike Montgomery and *Sensible Soccer* creator Jon Hare and it replicated the distinctive look of the 16-bit originals while serving six new *Speedball* arenas. Steam still has the game for £6.99/$9.99.

▶ this," he explains. By creating a larger playing area for *Speedball 2*, the developers were able to increase the number of players on the pitch from five on each side to nine. It also meant the game could be played with far greater freedom, while allowing action in the centre of the pitch to be just as vital at that at either end, for reasons we will come to later.

"The pitch was about three times bigger because we had learned how to scroll the screen better," says Mike. "The larger playing area enhanced the game, and it allowed for more things to do. It also enabled players to make better use of tactics. By having this wide, open scrolling, there were more players that would be off the field. We wanted players to work out where they may be and to plan ahead, things like that. Getting to grips with the technology and mechanics of the game in this way also let us work on the overall look and feel of the game to the point that, technically, *Speedball 2* was a lot better than the original game."

Work on the game's playing field had come first. "We made a very simple background for most of the screen, using 16x16 tiles for the main areas of the pitch because the Atari ST didn't have the graphic acceleration hardware that the Amiga had," Robert explains. "That allowed us to put some bonus features around the edges of the screen and the bouncers on the pitch. Those bouncers were the only unique elements on the pitch – the rest of it was a repeating pattern and it meant the game could flow much better."

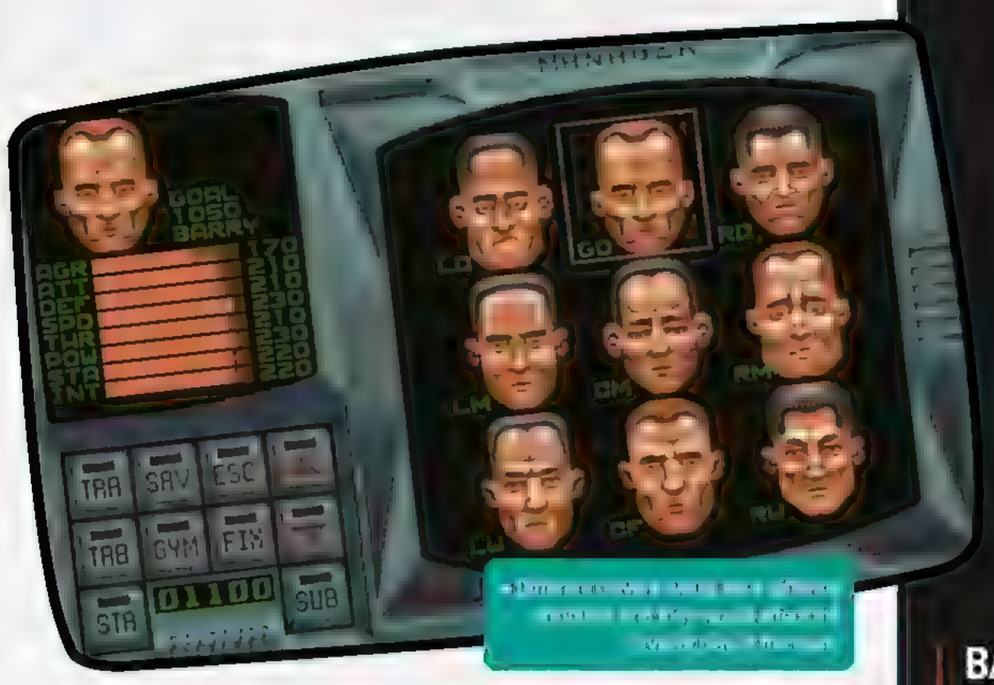
> **"The pitch was a lot bigger because we had learned how to scroll the screen a lot better"**
>
> Mike Montgomery

During the subsequent conversion to the Amiga, the background was enhanced. The palette was upped from 16 to 32 colours and the design became, as Robert explains, "more interesting". For the ST, it was a case, he remembers, of "blasting most the screen background very quickly," and having preloaded registers, whereas on the Amiga, the team could make use of the various graphics acceleration chips. "We were squeezing everything that we could out of these machines," says Robert. "But I was this young guy with his foot in the door of the games industry and loving it. I had the confidence that I had the skills and ability to make it happen."

To aid him in developing the game (which also saw many outings on handheld and home consoles), he was able to make use of in-house library routines that The Bitmap Brothers had created. They had some basic sprite routines and code set up on the Amiga but the main issue was that the coders were working with the same amount of memory for *Speedball 2* as they were for *Speedball*. "Cramming all of that in was a problem because we had to work with the lowest spec machines," says Mike.

"There were bits and pieces and skeleton code that were useful although almost all of the code was new," Robert continues. "Even with their library of sprite routines, I saw there was an optimisation we could perform on the main loop. I also instinctively took an object-orientated approach to the software before the concept of software engineering became the way. All of this combined to make a bigger and better version of the original *Speedball* game."

It was also fast. "The frame-rate was a lot better," says Mike, "and that was important because the better it was, the better the game experience of that type of game would be. It wouldn't matter for a turn-based game but with an action game, you needed to be slick and quick." Players would have to keep an eye on the kind of players that were in view on the pitch. Icons above their heads would reveal whether the sprites



were open to a pass and they would indicate their playing position – W for Winger, D for Defence, M for Midfielder and F for Forward – to allow gamers to make effective passes.

There were lots of power-ups too which would reverse the controls, increase player stats, protect players or zap opponents. Some would boost player attacks and others would give an injection of stamina. Coins could be collected and be spent on player enhancements. There was even a management element, letting gamers choose a manager before training and building up nine players and three subs (while dipping into the transfer market for star players). It was possible to develop players one by one. "The management elements were added to give greater depth," says Robert. "But we made it so that people who didn't want to think about it could click auto and have the game spend the money on enhancing players while those that did want to get stuck in were able to think about who they wanted in the team and the attributes they wished to choose."

As well as having warp holes which would instantly teleport the ball from one side of the playing space to the other, *Speedball 2*'s gameplay – whether league, cup or one-off match – was enhanced by the addition of many new features, the combined nature of which changed the approach players would have towards the game. There was an overhauled scoring system, which not only put a fresh twist on the points a goal would amass for a team, but allowed players to chalk up better scores according to the tactics they employed over the course of each half.

The most important of these were the coiled score multipliers which lay across from the centre of the arena to the left and right of the screen, each containing a set of lights and each of them capable of giving players a points bonanza. By throwing the ball up the ramp of the multiplier, it was possible to increase the number of points that was awarded for goals and other score-enhancing feats.

When no lights were lit, a goal would be worth ten points, when one light was lit, it would be worth 15 and when two lights were lit, goals were worth an ▶

POWER-UP

Spending a little bit of time in the gym to upgrade the attack, defence, stamina, aggression and intelligence levels of your team is well worth your while

BARGE PADS
■ By plating up the shoulders of your attackers, their ability to power forward and knock the opposing players away is greatly increased.

BRAIN BOOST
■ Attackers, above all, need to have a sense of intelligence about them so injecting their noggins with a bit of cleverness wouldn't go amiss.

BITMAP SHADES
■ Getting one-up on the opposition and ensuring they are thumped to the ground is important in *Speedball 2*. The shades enhance aggression.

POWER GLOVES
■ *Speedball 2* is all about the throwing and these Power Gloves bring with them better throwing prowess.

CHEST GUARD
■ As the opposition charges towards your team, it pays to give the defence some added protection. Defensive ability is enhanced with the chest guard.

SPEED BOOTS
■ As the name suggest these enhance the speed at which an individual player is able to chase around the pitch.

DID YOU KNOW?
A metal band from London which was formed in 1997 called itself Brutal Deluxe in homage to *Speedball 2*. It released three albums and numbered Johnny D.Brutal, Guary MacSeantaoic and Christian D.Lux as members.

SPEEDBALL TIPS

Learn to play with Robert and Mike

SHOOT WELL

■ "You have to learn how to hit the intermediate angle on shooting," says Robert Trevellyan. "Move the joystick to the side in between pressing the button to release the ball and the ball leaving the player's hand."

GO FOR THE LEAGUE

■ As well as rewarding a win or draw, a league point is awarded for every ten points scored in a match so a good performance against a poorer team can give you a good position. "You have a better chance to win the league than the cup if only because one loss and you're out in the knockout," says Robert. "I never won the cup."

STAR ATTACKS

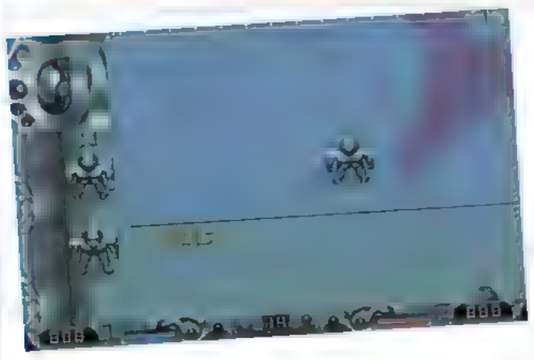
■ Getting goals isn't easy but getting stars are, so make your way to the sides of the pitch and hurl away for points. Get all the stars and bank the points.

HEAD FOR THE MULTIPLIER

■ The best way to get a good lead is to ensure that every point you gain is optimised. The only way of doing that is by throwing balls into the multiplier early on.

GRAB THE TOKENS

■ Tokens affect the whole team and lasts six seconds. Freeze team tokens halt opponents, reduce team tokens lower opponent attributes, goal doors prevent goal scoring, grab ball gives you possession.



HANG AROUND

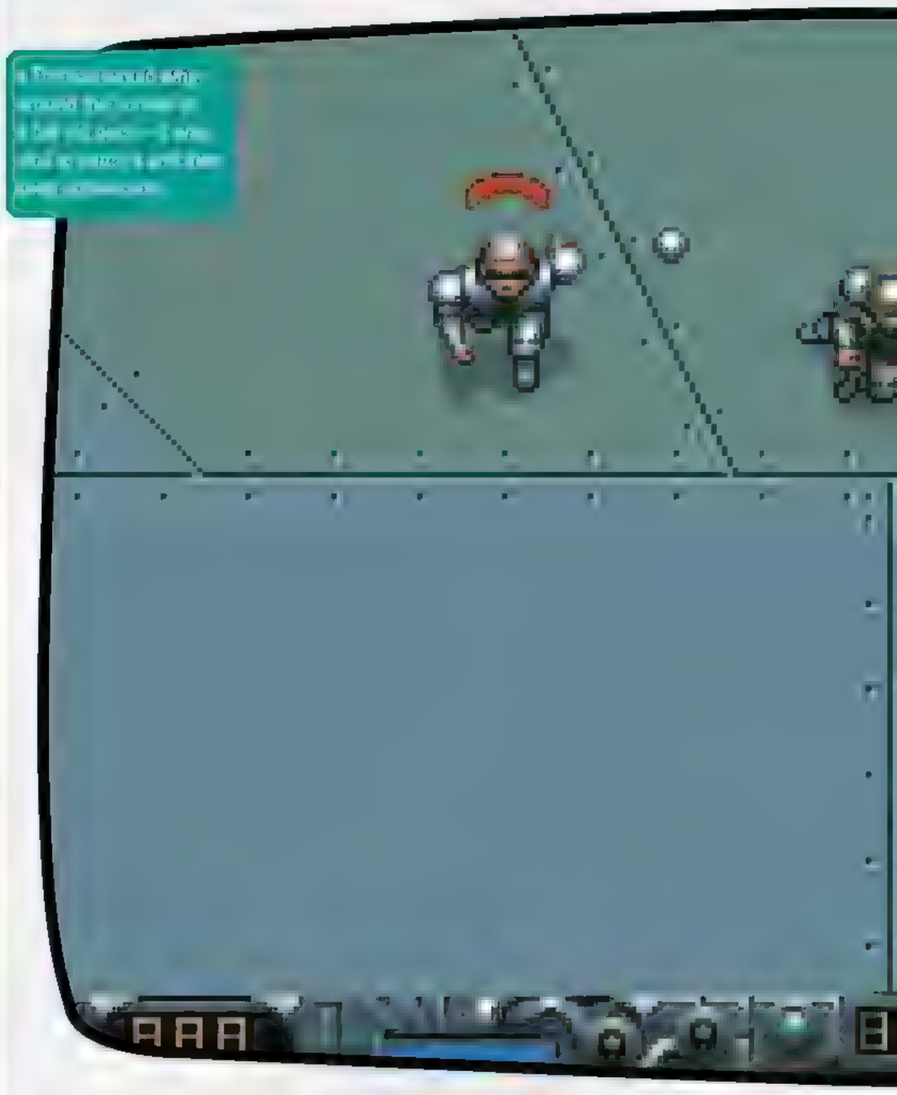
■ You should aim to linger around the multiplier and see off challenges with a few punches. Should the opposition attempt to cancel your multiples, quickly get the ball away.

USE THE BOUNCE DOWNS

■ "You have got to watch your timing and go for the bounce downs and the electrobounce – even if the electro ball runs out, you still have a chance of winning because the goalies cannot normally get to it in time and it confuses the player." Sound advice from Mike.

BUY QUALITY

■ Playing the game on the original hardware? "You have to be fast and you need to have a high quality joystick," says Robert. "You'll destroy any poor-quality joystick."

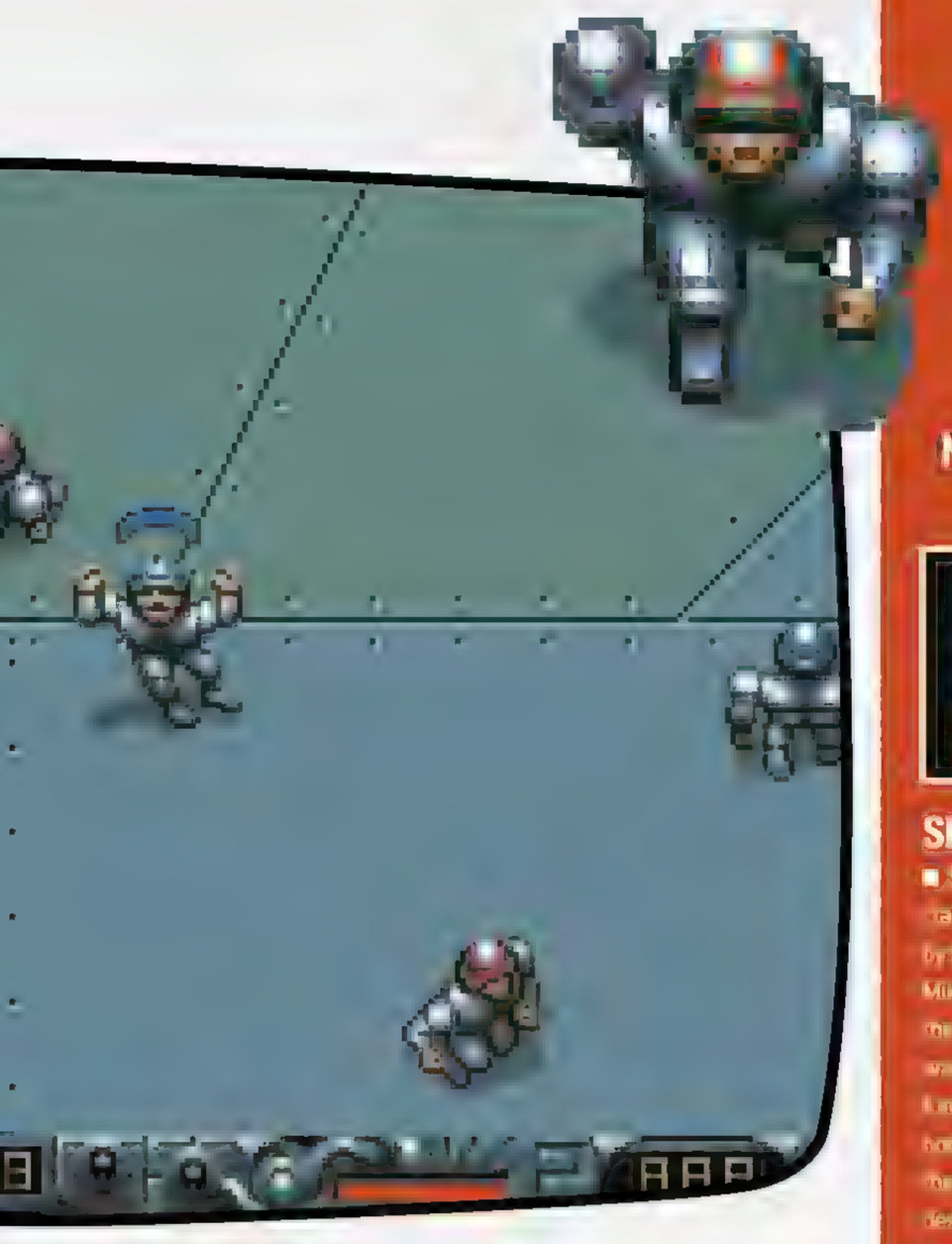


▶ impressive 20 points. To the side of the multipliers were a series of five stars. When these were hit by the ball, they would give the player two precious points. But if a multiplier light was lit, that would increase to three points and if two lights were turned on, it would lead to four points. Needless to say mastering multipliers like this were one of the keys to success at *Speedball*. "Although the idea for this all of this was most likely thought out at the start by Eric, I don't remember the nuances of the scoring system being laid out in detail," says Robert, struggling to recall the exact timings. "A lot developed along the way."

And develop it did, with players quickly realising the true complexity that lay behind the waypoints were earned. Players who managed to get all five stars, for instance, would receive a bonus of ten points but if a multiplier light was on, that would increase to 15 and, if two were on, it would see a return of 20. Still, that wasn't it, though. In between the centre spot and the goals were bounce domes. When these were hit, the ball would fly away and lead to scores of two, three or four depending on the multiplier's status at the time.

The multiplier was also used in conjunction with the 'electrobounce', a feature that was placed further along the wall from the sets of stars. It would give the ball an electric charge that would only wear off when the ball became still or the opposition gained possession. When the ball was charged, players who tried to pick it up would be automatically tackled. The number of tackles would depend – you guessed it – on the number of lights that were lit up on the multiplier.

"The basic scoring methods and warp gates were inspired by *Pro-Pinball*," laughs Mike. "In fact, a lot is based on a pinball machine really. We just thought it would be a good idea to do something different and to say this is not a football game. We wanted something that had virtually no rules with a scoring mechanism that would let you boost your points which is where the multiplier and bounce domes came in. Part of actually winning in *Speedball 2* wasn't down to scoring



"We were squeezing everything that we could out of these machines; pushing the hardware to the limits" Robert Trevelllyan

goals but using the features to the best advantage."

That was certainly true. One hit on a bounce dome at the right time could give a player all the advantage needed to win a match. "In football, you may get a corner and you need to score off of it," Mike explains. "In *Speedball*, you could be in a tight position with a few seconds left, go for a bounce dome and bang, you've won the game. It's what made the game exciting and it's why people still play it. I mean, two years ago I was on the Underground in London, and two guys were talking about *Speedball 2* on the Amiga and it was, like, f**k! I would have told them that I made the game but it was too packed and I had to get off, but I heard this conversation and it was, like, f**king hell, people still talk very passionately about it."

And yet that is only half of the story when it comes to the gameplay. While players could head for the multiplier and attempt to boost their points tally, the opposing team was able to turn the lights off and wipe away any hard-fought for advantage, leading to all sounds of interesting counterattacks. The only real way to prevent the opposing team from getting the upper hand was – as in the first game – to get stuck in. As a result, *Speedball 2* was a tough, physical on-screen sport and there were a great many pixelated casualties (although we never felt guilty for causing them).

But suggest that it was a violent game and Mike is quick to jump in. "There was no violence in the game at all. It was how you perceived it," he says. "There was no blood and there was no gore. It was up to the player whether they felt it was violent or not. And that was intentional." Still, the game was very much about tackling opposing players head on, ramming them out of the way and gaining possession. What's more, ten points were awarded for every opponent who had to be carried off. In such circumstances, little mechanical droids would enter the field of play with their sirens and lights flashing before picking up the poor soul and taking him away for treatment.

GAME ON

More sports game with a heavy sci-fi influence to discover

SKATEBALL

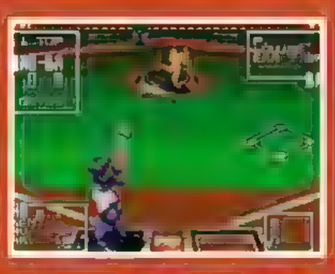
■ *Speedball 2* often claimed to have been inspired by the novel *Rollerball* by Mike Jensen. *Skateball*, on the other hand, most likely was. A fast-moving futuristic version of ice hockey mixed with football, the matches could be won by destroying the opposition or by scoring two goals.

CYBERBALL

■ In 2022, American football is played by well-armoured robots controlled from a safe distance by humans. In Cyberball's arcade version, Atari's *Cyberball* eventually ended up as a one-on-one game where you scored touchdowns by carrying the ball across the end zone while dealing out an explosive ball.

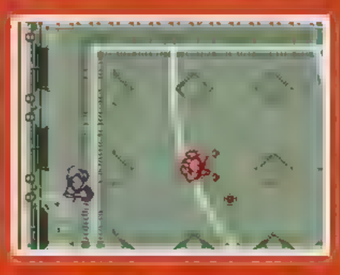
KILLERBALL

■ Bashing together roller skating and American football, *Killerball* is a five-a-side blast which became a cult of gaming history when it was released in 1989. Players can pass the ball to the opposition by heading them to the ground before trying to put the ball into a small hole in the wall.



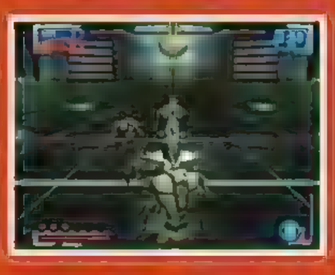
SUPER BASEBALL 2020

■ While this game has baseball's traditional rules at its core, the Cyber Egg Stadium environment and super-powered players ensure it's anything but a traditional sport. As well as the use of defensive and offensive mines, money is paid to play. It's rewarded by cash that can be spent on upgrades.



BILL LAIMBEER'S COMBAT BASKETBALL

■ The NBA's most notorious Bill Laimbeer was one of the most aggressive players ever to step onto the court. In this Speedball-esque sport, he's on hand to give his advantage in the game. Set in 2030, Bill has decided to get rid of the referee as the game suggests violence will keep the viewing



DEATHROW

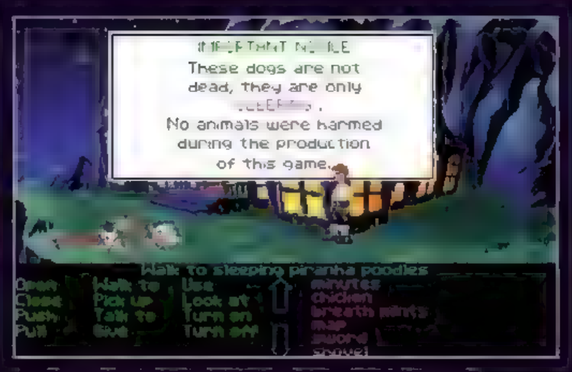
■ Showing quite violent tendencies, sports game... Here, the winning of the last ever basketball game in *Deathrow* becomes a violent addition of modern sports release. Kicking, dismissal, 2002. With players honing the way to get a blow to dismissing the opposing team, the game has proved to be massively fast and fun.

THE SECRET OF MONKEY ISLAND

What do you get when you cross sword fighting with pirates, monkey and a rubber chicken with a pulley in the middle? Kim Wild dons a pirate hat and eye patch to chat with Ron Gilbert and Dave Grossman about their swashbuckling classic

THE SECRET OF MONKEY ISLAND

» The stump joke, although in the floppy versions, was removed from CD-ROM to prevent even more confusion.



» Ron Gilbert's love of movies shows through with the disclaimer above.

"We wrote the script as we were doing the programming. You could not do that today"

RON GILBERT

The Secret Of Monkey Island **is one title that comes to mind as being one of the all time classics of adventure gaming. Stuffed with logical puzzles, offbeat humour, sword fighting and some truly memorable characters,** ***Monkey Island*** **is a prime example of how to create an adventure that can stand the test of time.**

It would be some time from Ron Gilbert's arrival at LucasFilm Games before *Monkey Island* would begin development. To begin with, Ron's main role was that of the humble conversion. "My first job in the industry was with a company called Human Engineered Software where I was doing C64 programming," remarks Ron. "They went bankrupt only a few months after I started. I spent about six months looking for a job and was about ready to go back to school when I got a call from someone at LucasFilm. They were looking for someone to convert the Atari games they were doing for the C64." Dave Grossman's entrance into the videogame industry would occur much later and was something that occurred entirely by accident. "I was a graduate school refugee looking for something to do that was interesting without being morally reprehensible. I wasn't specifically trying to get into computer games or anything, but when I saw the ad I thought "Ooo! Yeah!" All of a sudden I was glad I hadn't gotten any of the other jobs I'd interviewed for over the preceding six months."

After the conversion had been completed, Ron Gilbert teamed up with Gary Winnick to create the first LucasFilm point-and-click title, *Maniac Mansion*. It would be this game that would see the creation of SCUMM (Script Creation Utility for *Maniac Mansion*) – the engine which has been used in every LucasFilm/Arts adventure to date. The idea for SCUMM was borne out of Ron's hatred of typing "I hated playing adventure games where I had to type everything in, and I hated playing the "second guess the parser" game, so I figure everything should be point-and-click". Dave Grossman explains: "The SCUMM point-and-click interface was developed as an answer to the parser, which was what most graphic adventures used in the Eighties. Parsers let you try more or less any action you can think of, but most of us felt they were just too frustrating and slow to use, and that the limited ability to RESPOND to an infinite choice of actions showed the cracks in the fantasy too plainly. We tinkered with the interface with each new game, trying to make it as easy to use as possible while still giving the player the means to specify a reasonable range of actions."

Although the system is now wholly owned by LucasArts, Ron feels that the secret of its success is still down to the quality of the games rather than just the engine itself. "I think SCUMM has been successful because we built good games with it. Without the good games, no one would remember a piece of technology."

» Only a red button could strike pure dread into the hearts of pirates everywhere. Either that or the gophers.

» Guybrush realises the way to a woman's heart is not by chocolates but flattering her with his conversational skills.

While work was progressing nicely on Zak McKracken, Ron began to put together ideas for *Monkey Island*, but development was put on hold as LucasFilm assigned the team with making a game to tie in with the *Indiana Jones And The Last Crusade* movie (LucasArts would have more success with an Indiana Jones adventure based on the search for Atlantis). This proved to be incredibly beneficial, as many of the development lessons learned ensured that *Monkey Island* was a far more coherent game. "I did *Monkey Island* after *Indy*, so there was a lot I learned from how the puzzles came together," explained Ron.

Once *Indy* had been completed, Ron was able to continue design on *Monkey Island*, which came from a "love of Pirates, mostly driven by the Disney ride, Pirates of the Caribbean. I also wanted to make a game that was kind of like fantasy, because it was popular, but I am not a huge fantasy fan. Pirates seemed like a good compromise." To begin with, the main protagonist remained

» The underwater puzzle that is simple, but ingenious. Also the only place where Guybrush can die.

» Stan – used ship salesman, con merchant and all round animated guy – shows his deep love for Arnie.

DEVELOPER HIGHLIGHTS

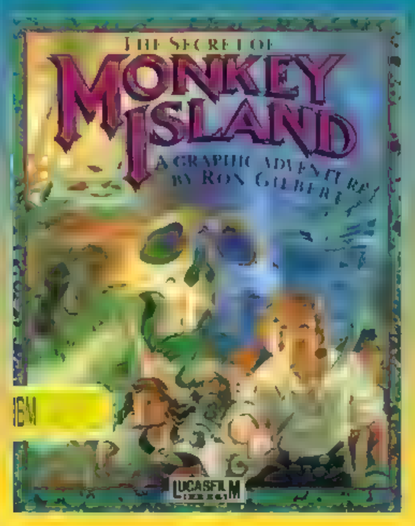
MANIAC MANSION
SYSTEMS: C64, AMIGA, ATARI ST, PC
YEAR: 1989

DAY OF THE TENTACLE
SYSTEMS: PC
YEAR: 1993

SAM AND MAX: HIT THE ROAD
SYSTEMS: PC
YEAR: 1993

IN THE KNOW

» **PUBLISHER:** LUCASFILM GAMES
» **DEVELOPER:** LUCASFILM GAMES
» **RELEASED:** 1990
» **PLATFORM:** AMIGA, VARIOUS
» **GENRE:** POINT-AND-CLICK



LOOK BEHIND YOU: A THREE-HEADED MONKEY!

In 1991, a sequel was released in the form of *LeChuck's Revenge*, a game that expanded upon the original in every department. However, one area that has been particularly hard for fans to accept is the controversial cliffhanger ending, which Dave Grossman reflects "references *The Empire Strikes Back* rather heavily". Although follow up title *Curse Of Monkey Island* did an admirable job of providing an explanation as to what happened to Guybrush and LeChuck, the fact that the game was developed by a different team means that many fans still hanker after the "real" *Monkey Island 3*. However, Ron Gilbert hopes that one day he will once again regain the rights to the series and finish the trilogy once and for all. "The secret will be revealed. If I get to make another *Monkey Island*, it will be called "Monkey Island 3a: The Secret Revealed or your Money Back."

"I got sick of playing adventure games where you died when you did anything wrong" RON GILBERT

» The original PC EGA version only used 16 colours, an incredible use of the limited technology.

» Bribery really is the key to becoming a mighty pirate. Failing that, violence solves everything.

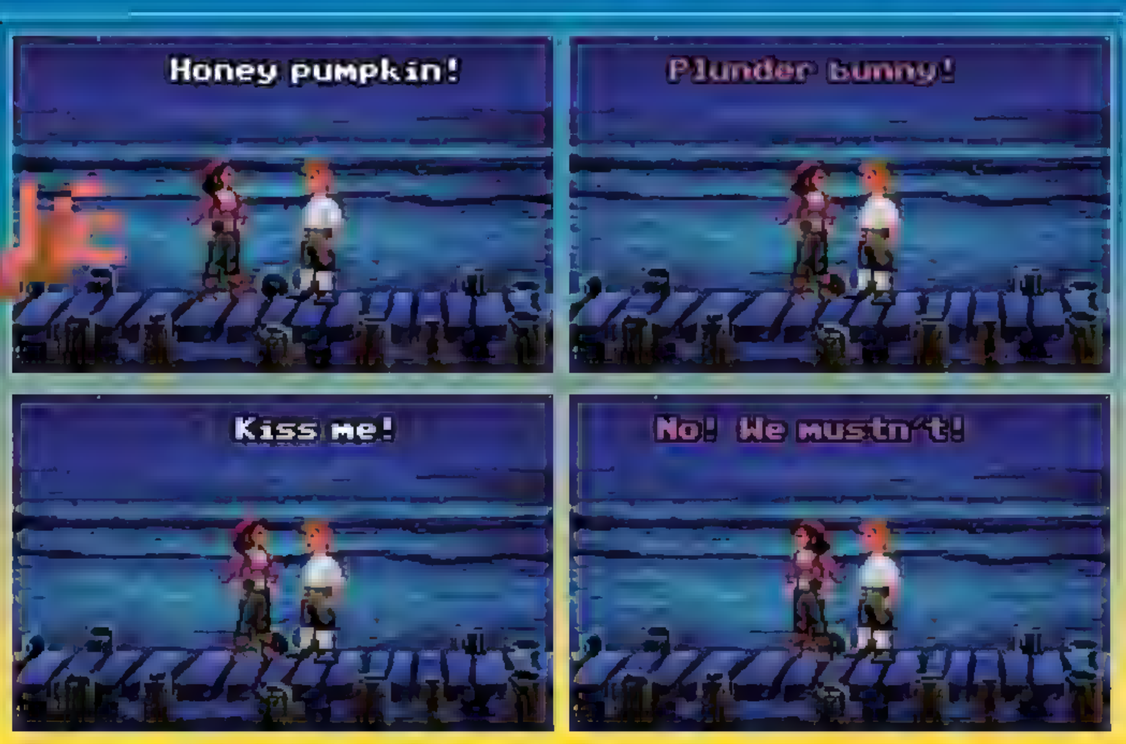
nameless and his humorous name came as a result of a graphics file. Steve Purcell, who worked as an animator, was using Dpaint to create the characters and saved the picture of our hero as a "guy". Selecting a file within the program calls it a "brush", so the picture would often be saved as guybrush and the name stuck. Threepwood was decided as a result of a company competition. General Manager Steve Arnold really liked "Chuck" and had wanted a character with this name to feature in a game, so Threepwood's nemesis "LeChuck" was born.

Monkey Island's unique blocky style was down to hardware limitations rather than conscious design. The original PC version was comprised of 16 colours at 320x200 resolution, which meant that the design had to be simplistic. "If we had better hardware to do graphics, they would have looked better. But that lack of high-end graphics really causes you to focus on the game and story more," continues Ron.

"I had most of the main puzzles done before we started," explains Ron. "I'd just start drawing boxes on a piece of paper, connecting all the "locks" and "keys". Once production started, Tim, Dave and I would hang out and brainstorm all the little pieces and fine-tune things that were not working." Dave explains a little more about his role: "My job in the early days, on the *Monkey* games, was mostly about details – telling characters where to walk, writing scenes and dialogue for them, helping design strings of puzzles, and making sure the cliffs crumbled on cue while Ron Gilbert kept track of the big picture. It was like an apprenticeship (you know, no pay but you learn a lot), and after a couple of years Tim Schafer and I took charge of our own project *Day Of The Tentacle*. We still did most of the writing, though, because we liked to."

One of the most memorable puzzles is that of insult sword fighting (see boxout). This once again came from Ron's love of movies. "I was inspired a lot by movies. I love movies and back then I would go to the theatre several times a week. When I am designing, I also spend a lot of time driving and listening to music. When designing *Money Island*, I watched a lot of old pirate movies, and they always spent more time in a sword fight talking to each other then actually fighting. So I figured that would be an interesting gameplay system. Also, if you're going to do a pirate game, there has to be sword fighting, but back then adventure gamesplayers hated any action in their games, so doing this turned it into a (funny) puzzle."

What makes the puzzles more pleasurable is that the player can explore the game freely without death lurking around every corner. With *Monkey Island* (with the exception of depriving Guybrush of oxygen for more than ten minutes) it is impossible to die, placing the emphasis firmly on



» This love scene will only take place if you DON'T complete the other two trials first.

» FM Towns console had a port of the CD-ROM version (packshot courtesy of http://lucasarts.vintagegaming.org).

» Guybrush is horrified when he encounters the scariest beast to roam the earth since the dinosaur.

experimentation. "I got sick of playing (especially the Sierra) adventure games where you died any time you did anything wrong," explains Ron. "I felt like this was a cheap way out for the designer."

Inevitably there were elements that never made it into the final version of the game. An amnesia plot for Guybrush Threepwood was dropped once his name was decided upon. Meathook initially gave the player three tasks before agreeing to join the crew for *Monkey Island*, but this was reduced to the funniest one as it was felt that there were too many for that section anyway. Meanwhile, the memorable Herman Toothrot was added to make *Monkey Island* feel less uninhabited.

"It was like an apprenticeship (you know, no pay but you learn a lot)" DAVE GROSSMAN

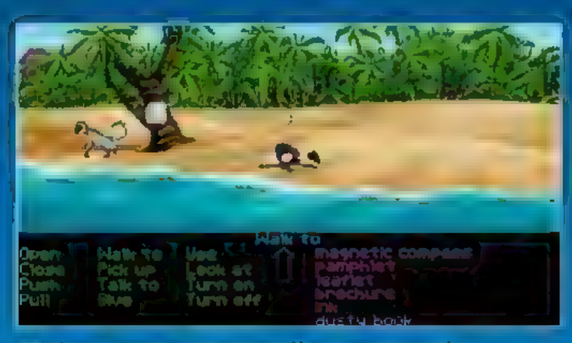
While the dialogue is entertaining, much of it was improvised as the game was developed. "We wrote the script as we were doing the programming. You could not do that today. You'd need to start with a script," comments Ron. "It was like snowboarding on a hill you haven't been down before. We couldn't see the bottom, but we knew where it was and had a basic plan for getting there. But the plan changed with each bump in the terrain," remarks Dave to us. "A lot was either filled in or rethought as we went – the dialogue in particular, not a syllable of which had been written in advance."

Development for the sequel began almost immediately after the first and was critically acclaimed while also proving popular among the fan base. Unfortunately, Ron left before work could begin on the third game to complete the trilogy (see boxout). "I felt that I had grown to the point where I wanted to run my own company, so I started Humongous Entertainment and we made adventure and other games for kids." The third game, however, was well received by the *Monkey Island* programmers. "I don't know about the 3D version, I haven't played that one. I did play *Curse*, though, and I liked it. It was fun, and it felt *Monkey*ish," comments Dave. Ron is equally positive, but speaks scathingly of the fourth outing. "I thought the writing was good and carried the tradition of the first two games. I did not like that Guybrush and Elaine got together. That wouldn't happen. I did not play *Escape From Monkey Island* for more than ten minutes. I could not get around the bad UI and character navigation."

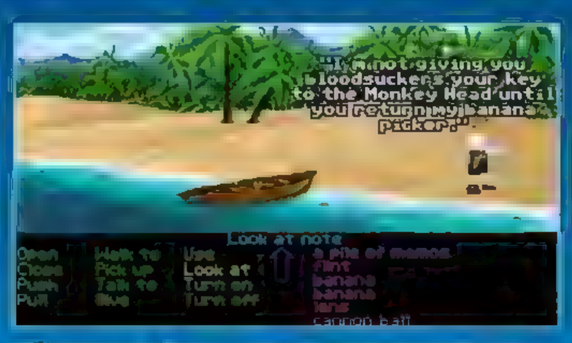
Even today, the success of *Monkey Island* is unexpected. "Those were the first games I ever worked on, so I didn't have the slightest idea what to expect," remarks Dave. "I don't remember thinking about it at all while we were building the first one – I was just enjoying making it fun and making it funny, and it didn't really occur to me that, after we were finished, we were actually going to send it to stores where it would be seen by the public."

These days, Ron Gilbert remains on the outskirts of the industry working on his own game ideas and entertaining us all with his personal blog Grumpy Gamer (http://grumpygamer.com). Dave Grossman now works with adventure company TellTale Games (http://www.telltalegames.com) who have just recently released the first episode for the new *Sam & Max* series, which comes highly recommended. Although new new *Monkey Island* games have been released since the episodic series, *Tales Of Monkey Island* in 2009, Ron remains influenced by his creation, most recently creating the excellent point-and-click adventure, *Thimbleweed Park*. He's also not shy about getting the rights back from current owner, Disney.

Of course it wouldn't be a proper article without asking the immortal question: just what is the Secret of Monkey Island? While Ron Ron just laughs the question off, it's Dave Grossman's remark that actually ends it...



» A cheeky monkey helps himself to some fruit while Threepwood lies unconscious on the beach



» Monkey heads. Banana pickers. Just what the hell is going on in this crazy game?

» Look behind you, it's a three-headed monkey!

» This overhead map shows locations you have visited.

HOW APPROPRIATE, YOU FIGHT LIKE A COW

Sword-fighting insults is one of the most memorable aspects of the game. Here we have collated together some cutting remarks worthy of any mighty pirate.

I got this scar on my face during a mighty struggle!
I hope now you've learned to stop picking your nose.

Have you stopped wearing diapers yet?
Why, did you want to borrow one?

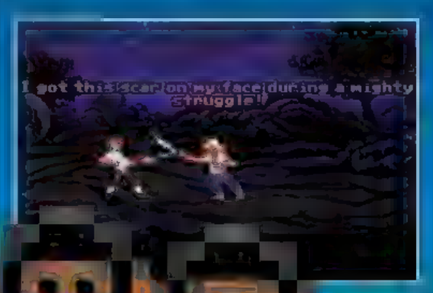
I have spoken with apes more polite than you.
I'm glad to hear you attended your family reunion.

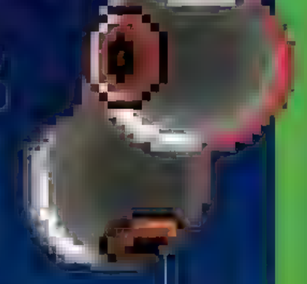
There are no words for how disgusting you are.
Yes there are. You just never learned them.

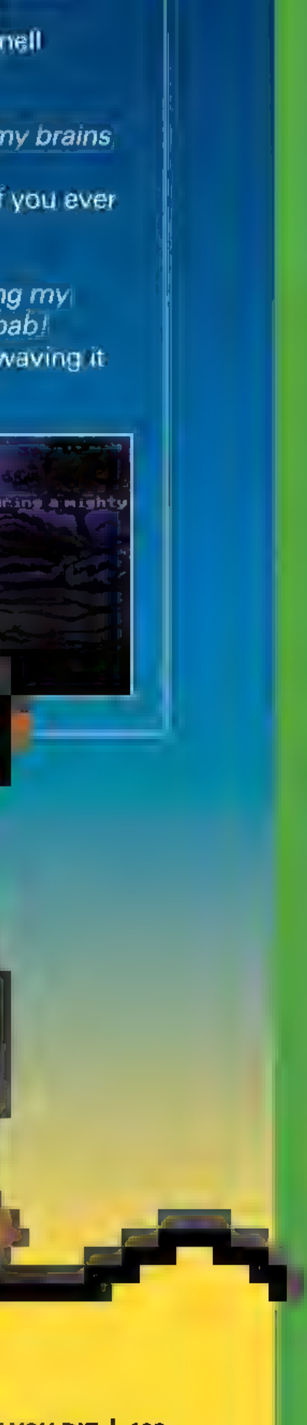
People fall at my feet when they see me coming.
Even BEFORE they smell your breath?

You're no match for my brains you poor fool.
I'd be in real trouble if you ever used them.

Soon you'll be wearing my sword like a shish kebab!
First you better stop waving it like a feather duster.







Whether you were working on a follow-up, working on a competitor or simply feeding arcade machines your hard-earned coins, Street Fighter II changed the gaming landscape. Nick Thorpe looks back at the impact of Capcom's classic brawler

STREET FIGHTER II

***Street Fighter* was a game that made an impact, but it wasn't a huge impact. It was popular, in part due to its deluxe cabinet featuring pressure-sensitive** buttons (a gimmick co-developed with Atari), and did decent business in the arcades and on home formats. What's more, SNK headhunted Takashi Nishiyama and Hiroshi Matsumoto, the game's director and planner respectively. However, it wasn't a broadly influential game or one that particularly screamed out for a sequel.

As a result, Capcom found itself in a dilemma – it had established the *Street Fighter* brand and got some momentum behind it, so it was keen to continue using the name in some fashion, but the key players had left the company and it didn't particularly want to make a new one-on-one fighting game. The fighting genre wasn't exactly a huge deal in the arcades or at home, having seemingly peaked a couple of years earlier with the likes of *Yie Ar Kung-Fu*, *Way Of The Exploding Fist* and *International Karate*.

That's why the first two attempts to follow up on *Street Fighter* weren't competitive fighting games. *Final Fight*, a scrolling beat-'em-up designed to compete with the likes of the *Double Dragon*, was originally marketed as *Street Fighter '89* before being renamed. A year later, the infamously dodgy *Street Fighter 2010* arrived on the NES and ventured into safe platform shooter territory.

Just as Capcom wasn't keen to make a direct follow-up to *Street Fighter*, other developers weren't looking to it for inspiration. "I remember playing the *Street Fighter* machine at my movie arcade with the giant punch buttons and loving it despite those lame buttons," says Michael Latham, who worked on a variety of fighting games during his time at Activision and Sega. However, the older games were still the key reference points for his early work in the genre. ▶

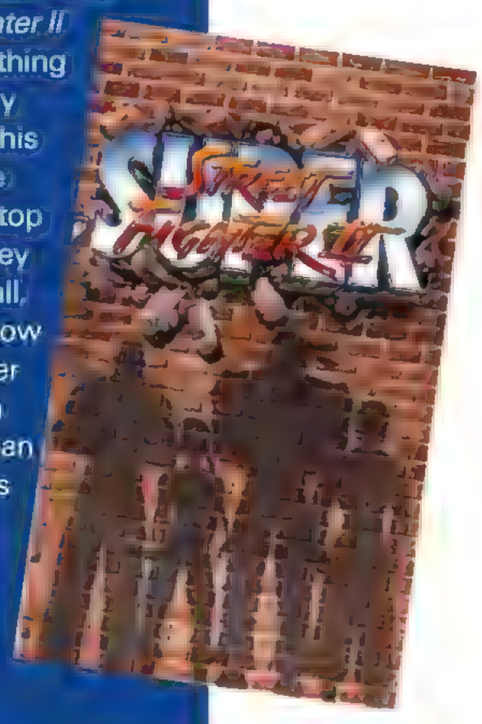
ART ATTACK

Mick McGinty talks us through some of his Street Fighter II box art

How much reference material were you given for an illustration such as this?
Hardly none. It was a Polaroid camera shot, Denny Moore sent me a couple of Polaroid shots that the manufacturers would send. The characters that they sent me, I saw them all in digital form. I'd get an idea of the background – "We've got this project called *Street Fighter*, it's very big in Japan, and we want a very American-looking image in order to promote it and put it on the cover." I just thought of a really dramatically lit alley scene with trash cans getting knocked over and the brick wall in the background. They might have even given me the choice on this one to choose the characters, and the most exciting and interesting one to me was Blanka – his cannonball would look great coming in from the left.

Turbo is one of my more favourite ones, I don't know why. I guess just because it was simple. I remember doing the first couple of sketches, and Denny Moore took it to Capcom and they said, 'We really want this punch attack.' What they really wanted to facilitate was a whole bunch of 'ghost hands,' and what I had was one big punch going straight at Sagat. But I just like it because it's really straightforward and you get a good look at the characters. I went into muscle building magazines and tried to make E. Honda sort of super big and muscular, rather than just layers of fat – especially the shoulders. They said, 'Go crazy, make these guys look really bad – they're the best fighters in the world and they're knocking each other around the room.'

This one's a very different look from the other ones, as it's just the character silhouettes.
Well, how it started was that I did just the top section, that just says *Super Street Fighter II*. Then Denny says, 'Okay, what they want is to have you re-illustrate this *Street Fighter II* in wet paint' – I literally copied something that was given to me – "and then they want the word super busting out of this brick wall." And that was actually the cover to some other format, just the top part, and then the shadowy thing, they said, 'We want you to do a bigger wall, with some light that's casting a shadow of other characters,' – I can remember the Indian chief and the little girl with the beret, she reminded me of a Cuban martial arts girl, I don't know why. It's kind of a weird-looking illustration when you think about it.



GAME SERIES KEY

WW Street Fighter II **CE** Street Fighter II': Champion Edition
HF Street Fighter II' Turbo: Hyper Fighting **SU** Super Street Fighter II
ST Super Street Fighter II Turbo

» Throwing is an important tool to use against defensively-minded opponents. That will teach them.

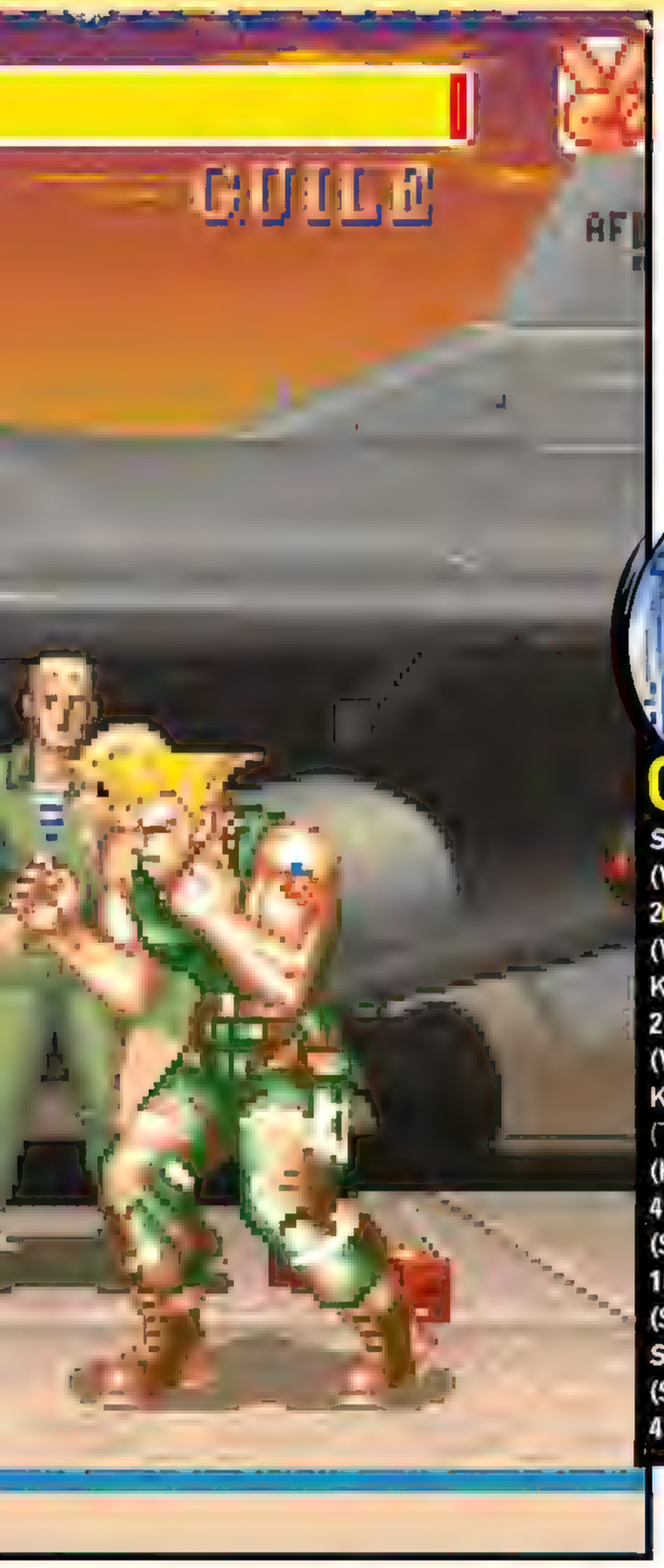
» Bringing bosses into the mix was a huge boost to *Champion Edition*'s multiplayer. Success ensued.

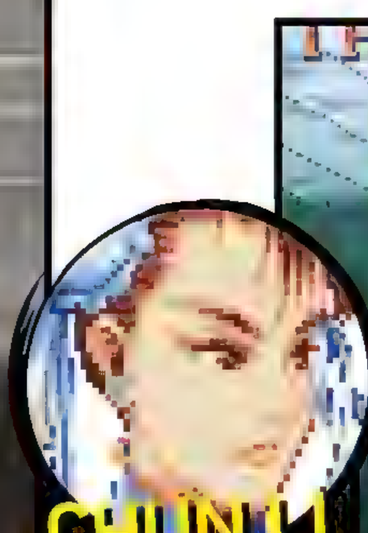
▶ "1984 was the year that my desire to make a fighting game started. I was a senior in high-school and arcades were at the heights of being a huge thing," Michael explains. "*Karate Champ* was the first 2D fighting game where I could challenge other players. I was obsessed with this coin-op. Countless hours and quarters went into playing the computer training hard so I could beat any challenger. I remember it being hard to find challengers as people would get angry if you beat them quickly, as it seemed like a waste of a quarter." Alongside *Kung Fu Master* and *Karateka*, this was the game that Michael was thinking of while working on the 1989 fighter *Tongue Of The Fatman*.

There are conflicting explanations of the actual circumstances that caused the eventual production of *Street Fighter II*, but the most corroborated story

from developers is that Capcom had asked for a *Final Fight* sequel and the team decided to make a *Street Fighter* sequel instead – an ironic reversal of the situation two years prior. With the previous game's lead designers elsewhere, a new team took on the challenge and brought with them some new ideas. For a start, art was a huge part of the game design, with half of the staff working on it. This allowed Capcom to generate a huge number of ideas and provide a cast that was almost entirely new, with only three returning characters – protagonist Ryu, final boss Sagat, and player two's Ryu clone, Ken. The new characters were to be based on broad stereotypes of various nationalities.

The other big difference was that *SFII* would be focused on competitive gameplay, an aspect of arcade gaming that had been crucial to the





CHUN LI

SPECIAL MOVES
(WW) Yousou Kyaku:
2 (In air)
(WW) Spinning Bird Kick:
2(Hold), 8
(WW) Hyakuretsu Kyaku:
(Tap) repeatedly
(HF) Kikouken:
4(Hold), 6
(ST) Tenshou Kyaku:
1(Hold), 6249
(ST) Inazuma
SUPER MOVE
(ST) Senretsu Kyaku:
4(Hold),646

» Chun-Li was the first of many female fighters in the *Street Fighter* franchise.

"The characters in the Street Fighter series are fantastical"
Yoshinori Ono

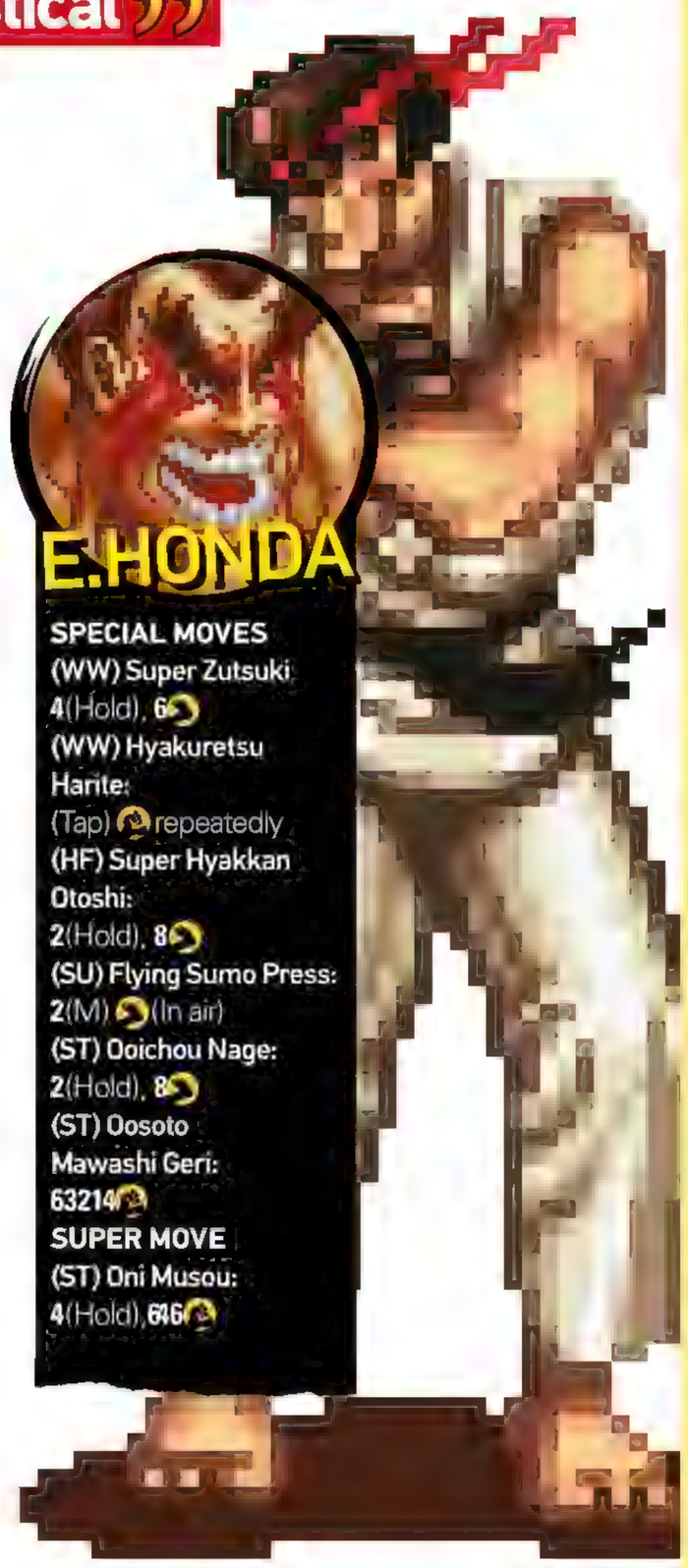
success of early games like *Pong*, but which had fallen out of favour over the years due to the rise of co-op play and high score tables. Capcom's idea was that encouraging two-player games would maximise revenue for arcade operators, and unlike a co-op game players couldn't feel cheated by a high difficulty level. Of course, the original game also had a multiplayer mode, but players were limited to two characters with identical abilities. This was a much poorer experience than the single-player mode, which allowed players to fight ten opponents with a variety of techniques.

Street Fighter II proved to be a major production for the era. With a development team of approximately 35, the game cost almost $2.5 million to make. It was a real gamble for a sequel to a game that hadn't set the world on fire, but one which had evidently paid off when you saw the game's astonishing visuals and heard the excellent music. But while those aspects were great, what sent it over the top was the design.

Much like its predecessor, *Street Fighter II* challenges players to win a series of one-on-one fights in a bid to win a fighting tournament. It retains some of the gameplay characteristics of the original game, including a control scheme with three strength options for punching and kicking, as well as the inclusion of special moves accessed with combinations of movements and button presses. In the single-player mode, you'll face off against the characters you didn't pick before taking on the game's four bosses – Balrog, Vega, Sagat and M. Bison. To break up the game a little, you're challenged to a bonus game every few rounds in which you destroy objects like a car, barrels and oil drums. Once M. Bison is defeated, you'll see a unique ending sequence for your character.

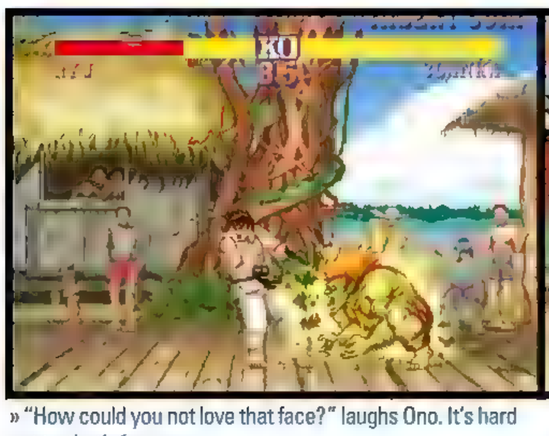
Unlike the original game, *Street Fighter II* gives you the choice of eight characters with distinct fighting styles, and they were an eye-catching bunch. Whether you were looking at Guile's bizarre haircut, Dhalsim's rubber limbs or the lightning hands of E. Honda, you were definitely looking at them – and each boasted a unique background themed around their nationality as well as a memorable theme tune. Yoshinori Ono, the executive producer of *Street Fighter V* and a veteran of the series, attributes much of the game's success to cast of characters. "The characters in the *Street Fighter* series are fantastical and couldn't really exist in the real world, but they all have their charms and amusing moves, expressions and storylines," he says.

Given that, it's no surprise that his favourite cast member is Blanka, the green-skinned wild man with an animalistic fighting style. "I mean, you bash the buttons and he releases electricity from his body! You wouldn't see that in an ordinary game or in a movie. Even the animations for his basic punch and kick moves are just really funny to me. Finding those humorous aspects within the potentially quite serious setting of playing an eSports match of *Street Fighter* is, I think, one of the reasons the fans have continued to love the series as long as they have, ▶

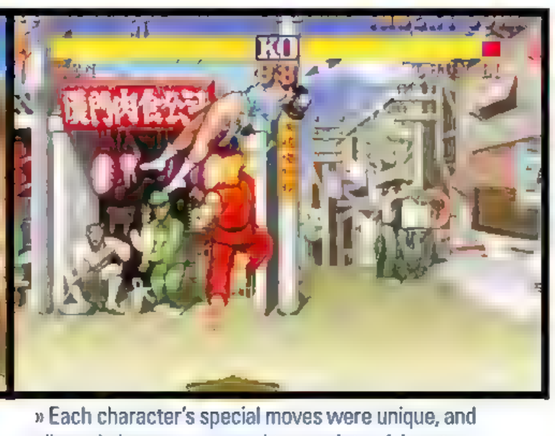


E.HONDA

SPECIAL MOVES
(WW) Super Zutsuki
4(Hold), 6
(WW) Hyakuretsu Harite:
(Tap) repeatedly
(HF) Super Hyakkan Otoshi:
2(Hold), 8
(SU) Flying Sumo Press:
2(M) (In air)
(ST) Ooichou Nage:
2(Hold), 8
(ST) Oosoto Mawashi Geri:
63214
SUPER MOVE
(ST) Oni Musou:
4(Hold),646



» "How could you not love that face?" laughs Ono. It's hard not to, that's for sure



» Each character's special moves were unique, and allowed players to respond to a variety of threats.

▶ and it's also one of the reasons why I love it."

Peter Rosas rose to prominence on the competitive *Street Fighter* scene under the name Combofiend before joining Capcom himself, and shares a similar view. "Worldwide, anyone who's ever played videogames is aware of Ryu and his Hadoken and of Chun-Li and her lightning kicks. Regardless of what platform it's on, people relish using *Street Fighter II*'s iconic characters to fight one another while performing those characters' simplistic signature attacks." Indeed, everyone has a favourite. Michael first encountered the game at Sega, where a cabinet had been bought for research on its own fighting game, *Eternal Champions*. "For a period of time I was the office champ using Chun-Li as my character," he recalls. "Sadly, some of the testers learned my play and soon crushed me." Mark Starkey, owner of London arcade The Heart Of Gaming, leans towards Ken. "Ken was an aggressive Ryu with more combos, and his rotation-based execution meant the pace of the matches was always fast," he explains.

The additional characters certainly added longevity to the single-player game, as players could opt to try to win the tournament with each of them individually, but arguably the game's biggest impact was in bringing an element of direct competition back to arcades. "Previously all two-player games had been co-operative rather than competitive," Mark recalls. "*Street Fighter II* revolutionised this, pitting players against each other, all determined to not be the person forced to go and change up more money in front of their peers in order to be able to continue." Peter points to the widened character roster as a key reason that the game took off competitively. "Regardless of your style, there was one character amongst the eight that would fit. On top of that, the speed, fluidity of controls and ability to perform combos really made *Street Fighter II* stand out ahead of its time."

Ono agrees. "I can still remember clearly the feeling of not playing a game so much as being able to take on an opponent in such a visceral way," he says. "At the time there weren't that many videogames that allowed you to compete against someone like that, the same way as you would when playing sports or indoor games like pool and darts."

BLANKA

SPECIAL MOVES
(WW) Electric Thunder: (Tap)
(WW) Rolling Attack: 4(Hold),6
(HF) Vertical Rolling: 2(Hold),8
(SU) Backstep Rolling: 4(Hold),6
(ST) Surprise Forward: 6(All)
(ST) Surprise Back: 4(All)
SUPER MOVE
(ST) Ground Shave Rolling: 4(Hold),646(Hold)

» With Ryu vs Ryu mirror matches possible in *ChampionEdition*, Ken became his own character.

"Worldwide, anyone who's ever played videogames is aware of Ryu and his Hadoken or Chun-Li and her lightning kicks"
Peter Rosas

What elevated *Street Fighter II* from a trend to a phenomenon was its fighting system, which boasted depth. "I would say *Street Fighter II* cracked the next step of how an interactive fighting system worked," says Michael. "Back in the *Tongue Of The Fatman* days the fighting systems were very 'rock, paper, scissors'. Both people could launch either an attack, defence, or projectile in some cases. *Street Fighter II* was the dawn of combos. The ability to string a combo of moves was the game changer. It made the game play fluid and far more strategic."

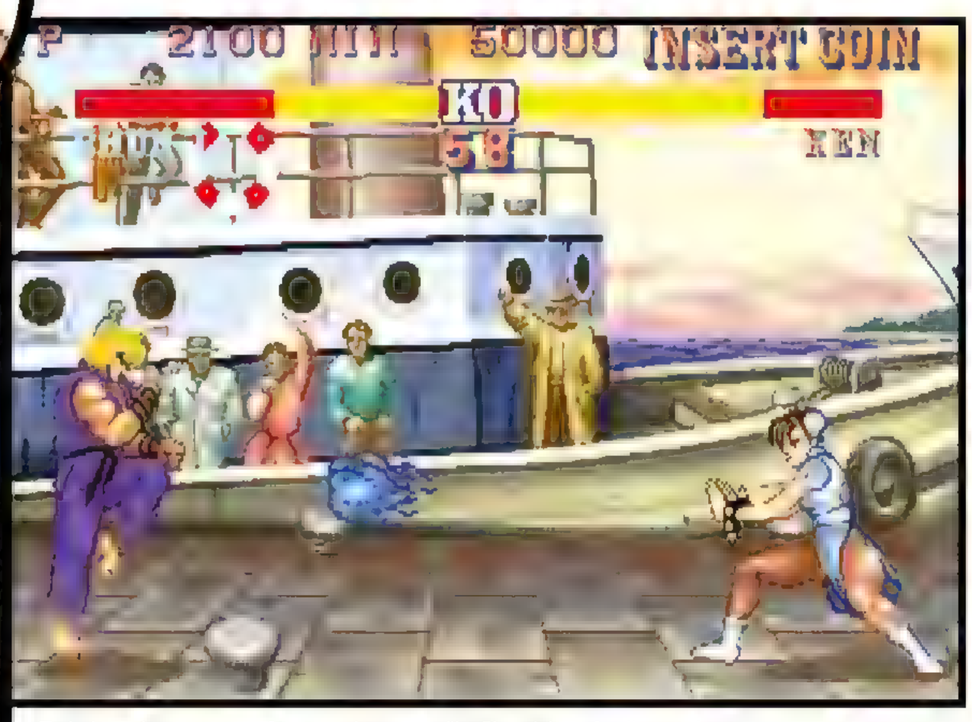
The ability to perform combos – attacks which cancel the animation of previous attacks, leaving the opponent no recovery time – was an unintended side effect of an attempt to make special moves easier to perform. "It opened up an entirely new feeling of what was possible in a fighting game," says Peter. "Prior to the introduction of this glitch, which then became a mainstay, fighting games consisted of slow attacks where the entire action needed to be completed before the next action could be performed. This ultimately left fighting games feeling rather stiff."

Of course, the combo system wasn't the only glitch in *Street Fighter II*, and the game's director Akira Nishitani had been privately fixing them up for personal satisfaction. However, they'd soon be put to use. Demand from Capcom's American branch turned *Street Fighter II* from a static game into an experience which evolved over the years with updates, in response to market developments and the findings of competitive players. Capcom's approach was extremely bold: while the concept of updating an cabinet was hardly new, the upgrade kit was often a overhaul or a completely new game. *Street Fighter II* received four upgrades over the course of three years, all of which left the core of the game intact.

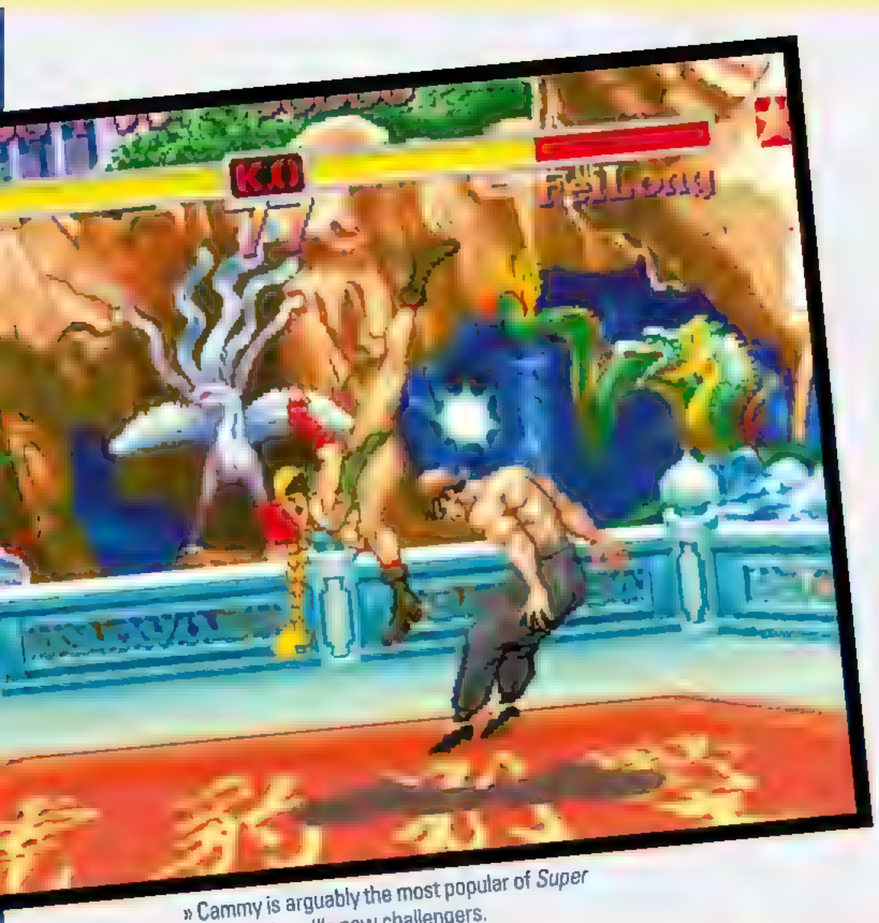
The first updated version, titled *Street Fighter II': Champion Edition*, was released just over a year after the original version in March 1992. The multiplayer game was refreshed with a huge number of new match-ups, thanks to the new ability for both players to pick the same character, as well as the

GUILE

SPECIAL MOVES
(WW) Sonic Boom: 4(Hold), 6
(WW) Somersault Kick: 2(Hold), 8
(WW) Flying Buster Drop: 2(M) (H) (In air)
(WW) Flying Mare: 2(M) (H) (In air)
SUPER MOVE
(ST) Double Somersault Kick: 1(Hold),319



» *Turbo* brought new moves for most characters, like Chun-Li's projectile attack.



» Cammy is arguably the most popular of *Super Street Fighter II*'s new challengers.

much more enticing ability to play as the four boss characters. Beyond that, the revision brought bug fixes, a set of move tweaks designed to rebalance the game and some minor graphical updates.

The ease of replacing chips on the *Champion Edition* board gave way to a slew of unofficial updates – notably *Rainbow Edition*, a fast-paced hack which broke the game balance with airborne special moves and bizarre projectile behaviour. At the end of 1992, *Street Fighter II' Turbo: Hyper Fighting* arrived as a playable official alternative. As well as giving seven of the original eight playable characters a brand new special move (with Guile being the one to lose out), the game's speed was noticeably increased. While it sounds like a fairly minor update compared to *Champion Edition*, it is fondly remembered: "I believe it to be the best all-rounder," says Mark. "The game was balanced, and improved on the limitations of its predecessor with extra speed, extra moves and damage levels with better balancing. It's still very popular at arcades in the East."

Arguably the most major update to *Street Fighter II* came with the ▶

DHALSIM

SPECIAL MOVES
(WW) Yoga Fire: 236
(WW) Yoga Flame: 41236
(WW) Drill Zutsuki: 2(H) (In air)
(WW) Drill Kick: 2(H) (In air)
(HF) Yoga Teleport (Forward): 623(All) or
(HF) Yoga Teleport (Backward): 421(All) or
(ST) Yoga Blast: 41236
SUPER MOVE
(ST) Yoga Inferno: 63214 63214

TEAM PICKS

The Retro Gamer team looks back at their favourite Street Fighter characters

DARRAN

Chararcter: Zangief

■ 'The Darran Jones Factor' has been circulating around the office for years. It refers to my ability to manically rotate the joystick to pull off insanely quick piledrivers. Therefore I play Zangief.

NICK

Chararcter: Ryu

■ Boring? Maybe, but Ryu perfectly fits my image of what a badass martial artist looks like, complete with white gi and a black belt – as a young karate student, he was what I wanted to be.

JON

Chararcter: Blanka

■ I like to play a defensive game and then slide in with a rolling attack or floor slide. For me, Blanka provides the best chance at keeping my distance but then also ability to get in close if needs be.

DREW

Chararcter: Chun-Li

■ It was not the Hadoken, but Chun's lightning legs (Hyakuretsu Kyaku) that wowed me in *Street Fighter II*. She's such a good all-rounder, and I still play Chun-Li to this day on *Street Fighter V*.

ZANGIEF

SPECIAL MOVES
(WW) Double Lariat: (All)
(WW) Screw Piledriver: (360)
(HF) Quick Lariat (All)
(SU) Flying Powerbomb: (360)
(SU) Atomic Suplex: (360) (Close)
(ST) Banishing Flat: 632
SUPER MOVE
(ST) Final Atomic Buster: 2x(360)

SAGAT

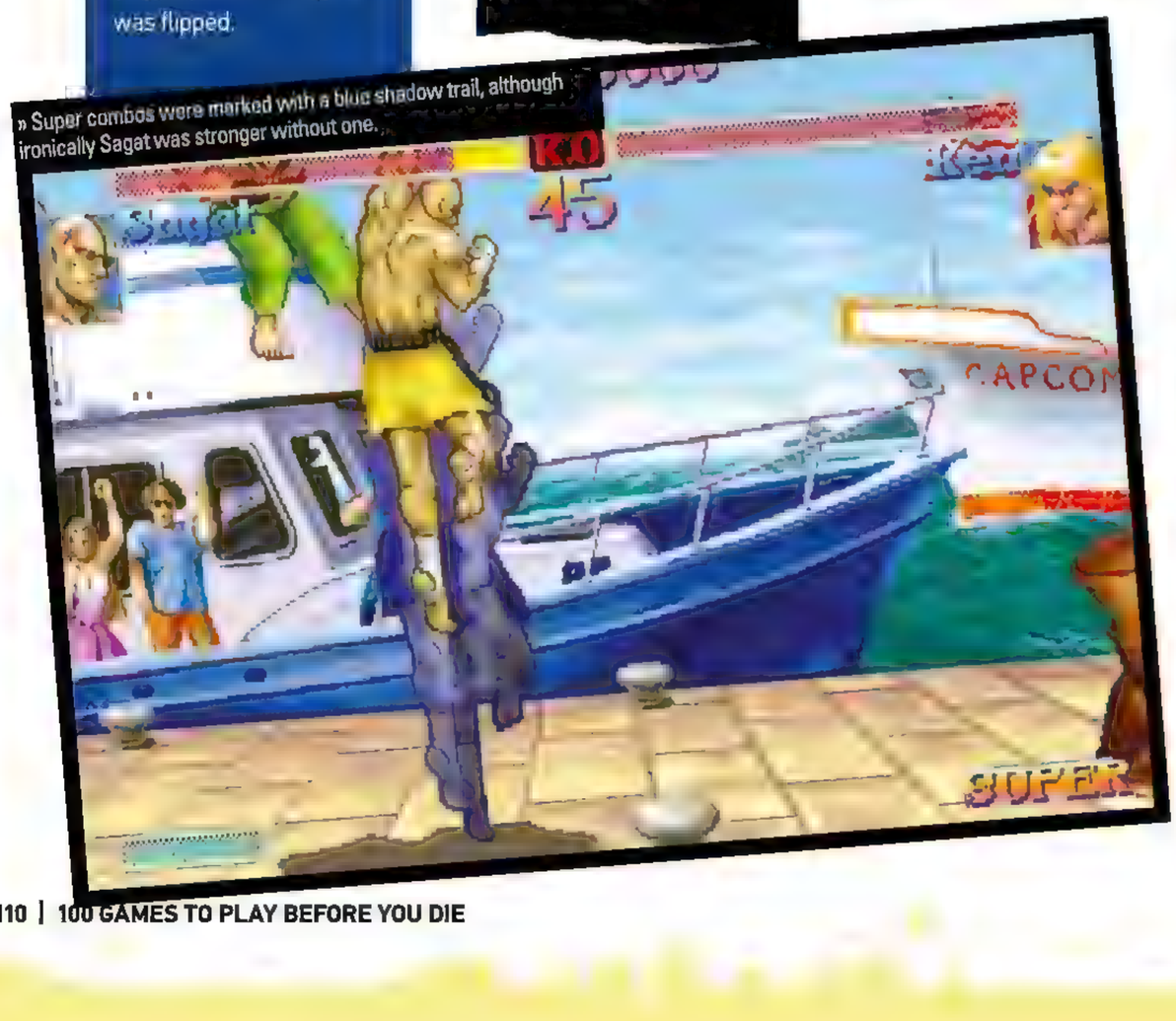
SPECIAL MOVES
(CE) Tiger Shot: 236
(CE) Ground Tiger Shot: 236
(CE) Tiger Uppercut 623
(CE) Tiger Knee Crush: 2369
SUPER MOVE
(ST) Tiger Genocide: 23636

DID YOU KNOW

- There's a hidden catch-up mechanic in *Street Fighter II* – if your opponent has won more rounds than you, your throws will deal some extra damage to help you out a bit.
- In order to clue players in to the existence of special moves, every button press in the original arcade version of *Street Fighter II* carries a 1-in-512 chance of triggering a special move.
- The team's original intention was that all projectiles could be avoided by crouching, but those plans were scrapped due to how good the now-familiar Hadoken animation looked.
- *Divekick*, *Shovel Knight* and *Kaiju Combat* all feature The Baz, a character based on an unused piece of *Street Fighter II* concept art depicting a bullfighter wearing a T-shirt that reads 'Zubaz'.
- Dee Jay's trousers were originally going to bear the word 'Mantis', but the word was changed to read 'Maximum' because the word still read properly when the sprite was flipped.

BALROG

SPECIAL MOVES
(CE) Dash Upper:
4(Hold),6
CE) Dash Straight:
4(Hold),6
(CE) Turn Punch:
(All)/(All)
(Hold), release
(SU) Buffalo Headbutt:
2(Hold), 8
(ST) DashGround Upper:
4(Hold) 3
(ST) DashGround Straight:
4(Hold)3
SUPER MOVE
(ST) Crazy Buffalo:
4(Hold),646



» Super combos were marked with a blue shadow trail, although ironically Sagat was stronger without one.

▶ game's move to the CPS2 arcade board. *Super Street Fighter II: The New Challengers* was a big overhaul, featuring four brand new characters with their own backgrounds and theme tunes. Fei Long was a clear homage to Bruce Lee and Dee Jay, the first character to be designed by Capcom USA, was fashioned after the martial artist and Tae Bo creator Billy Blanks. T. Hawk (short for Thunder Hawk) was a Mexican powerhouse, while the UK's Cammy was an amnesiac assassin with a mysterious connection to M. Bison.

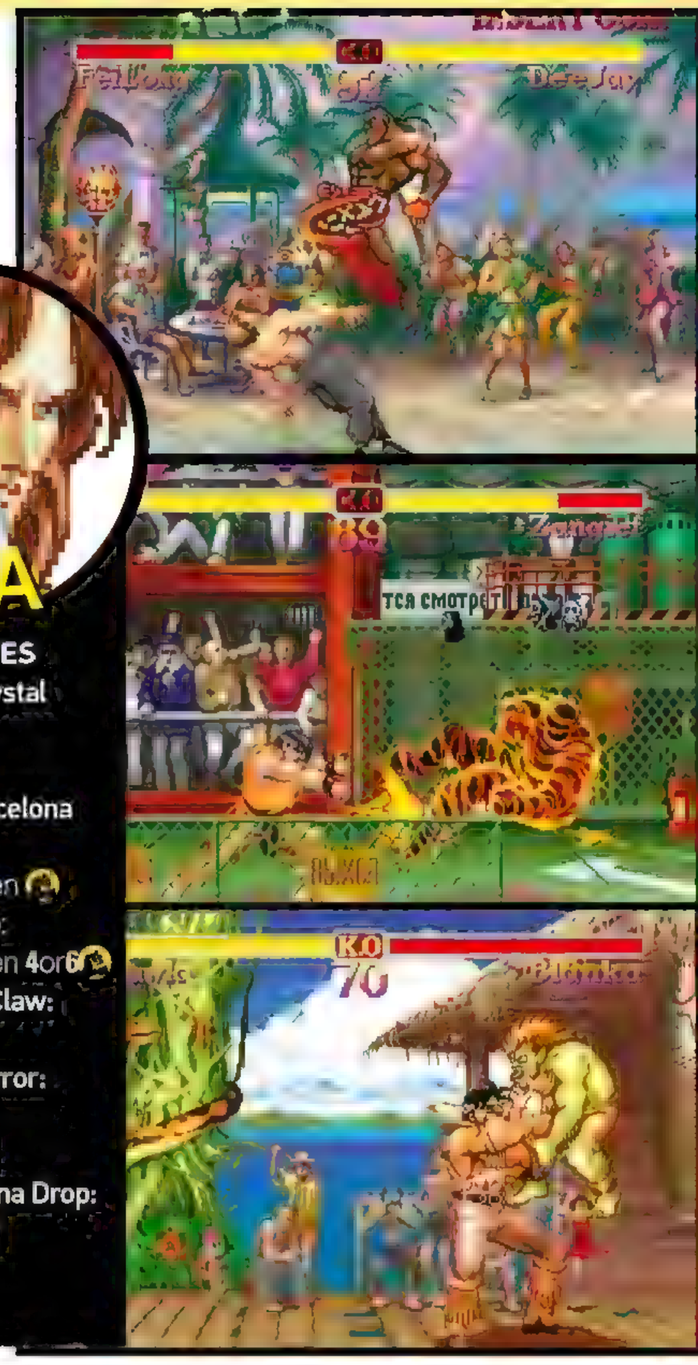
"I think the new characters added some new ways to play," says Peter. "A good example is T.Hawk. With this introduction, a new grappler entered the fray, yet instead of being ground-based, he was more mobile and able close the distance on the opponent's way faster than Zangief could. Having a mobile grappler was something unseen in *Street Fighter*, and was truly daring."

As *Super Street Fighter II* was running on more powerful hardware than the first three versions, those weren't the only changes. "On-screen combo counters, remixed music, as well as character detailing. We ate up what was thrown at us," Mark recalls. But, the game was a step back in one regard – the additional speed found in *Street Fighter II Turbo* was nowhere to be seen.

The last of the contemporary updates was *Super Street Fighter II Turbo*, which brought back the higher speeds of *Street Fighter II Turbo*. However, its major innovation was the addition of Super moves – powerful multi-hit combos that could only be performed once the gauge at the bottom of the screen had been completely filled. The new game also added throw escapes, which allowed players to reduce damage when being thrown, but removed the Tournament Battle mode and the bonus stages, which upset some.

VEGA

SPECIAL MOVES
(CE) Rolling Crystal Flash:
4(Hold),6
(CE) Flying Barcelona Attack:
2(Hold),8 then
(CE) Izuna Drop:
2(Hold),8 then 4or6
(SU) Sky High Claw:
2(Hold), 8
(ST) Scarlet Terror:
1(Hold), 6
SUPER MOVE
(ST) Rolling Izuna Drop:
1(Hold),3196
then4/ 6



Looking back on the updates, Peter is positive about their impact: "Although I liked some more than others, I felt each were a necessity as Capcom further refined not only how *Street Fighter II* looked and felt, but how fighting games could look and feel." He wasn't alone in that sentiment, as *Street Fighter II*'s updates were also strong critical and commercial successes. "That said," Peter continues, "I remember thinking, 'Just give me *Street Fighter III* already,' when *Super Street Fighter II* was released." He speaks for a vocal section of the community in this regard, as there was a suspicion that Capcom had found a cash cow and was milking it. The update idea had worked brilliantly for the arcade market, where an operator could justify expenditure because it would increase the cabinet's longevity. Only the hardcore would fork out the cost of a full-price game for such revisions in the home market, and the updates released to diminishing returns.

In 2004, a final arcade version titled *Hyper Street Fighter II* was released. It featured the ability to choose not only your character, but also the version characteristics applied to them – meaning it was possible to pit *Champion Edition* Ryu against *Hyper Fighting* Sagat, for example. The last new revision was *Super Street Fighter II Turbo HD Remix*, which added new HD visuals and a remixed soundtrack, as well as a rebalanced mode with simpler control inputs. "It was surprising as the sentiment within the competitive scene was that although *SSFII Turbo* was rather imbalanced (Old Sagat was quite strong) they kind of accepted it and were still finding ways to fight the character well up to *SSFII: HDR*'s release," says Peter. "That said, seeing as how *HD Remix* had a brand-new look, it would've been weird if the game did not also have a different re-balance."

***Street Fighter II*'s commercial impact is hard to overstate. Both Capcom and operators made major money from the** game, as a competitive scene gave rise to tournaments and a competitive scene, the legacy of which can be seen in today's eSports scene and tournaments like the Evo Championship Series.

Of course, success breeds imitators. "Developers saw the impact *Street Fighter II* was having, and it wasn't long before the competition got tough," recalls Mark, "especially with franchises such as *Mortal Kombat*, *The King Of Fighters* and *Tekken* all out by 1994, and all looking to claim the competitive fighting game genre in the arcades." By that point every major arcade manufacturer had jumped on the fighting bandwagon and Capcom felt that some imitators were getting a bit close for comfort. In particular, Capcom took Data East to court over *Fighter's History*, alleging that it had copied fighting styles, appearances and control schemes from *Street Fighter II*. However, the court concluded that many of the similarities between the two games were not protected under copyright law, and that *Fighter's History* had not sufficiently infringed upon those that were.

» With teleportation, air fireballs and insane power, Akuma was a devilish boss.

DEE JAY

SPECIAL MOVES
(SU) Air Slasher: 4(Hold),6
(SU) Double Rolling Sobat: 4(Hold),6
(SU) Machine Gun Upper: 2(Hold),8, then (tap)
(ST) Jackknife Maximum: 2(Hold),8
SUPER MOVE
(ST) Sobat Carnival: 4(Hold),646

"The game was balanced, and improved on the limitations of its predecessor"
Mark Starkey

However, it was certainly possible to carve out a place in the fighting market. The important thing, as Michael notes, was to offer something that *Street Fighter II* didn't. "I think *Eternal Champions* always started with a deep story as the focus. Prior to this, no fighting game had focused on that aspect," he explains. "Given that *Eternal Champions* wasn't an arcade port I also focused to make sure the single-player was rewarded. Training modes and all the various storyline outcomes were designed to reward those players as much as the head to head modes." This paid off for Michael and his team, as the game achieved strong sales despite a crowded Mega Drive fighting market. Indeed, every competitor offered a unique hook, be it the realistic digitised sprites and copious gore of *Mortal Kombat*, the dynamic sprite scaling of SNK's games or the 3D visuals of games like *Virtua Fighter*. However, most games adopted aspects of *Street Fighter II* in return, with the combo system being the most notable.

In the home, *Street Fighter II* was big business, with almost every platform receiving at least one of the game's versions. However, special mention has to be made of *Street Fighter II*'s impact as a third-party killer app for Nintendo – the SNES version was the first home conversion on the market when it arrived in the summer of 1992, and fans of the arcade machine flocked to the console as a result. Nintendo was particularly keen to trumpet the fact that it had the only conversion of the game, memorably placing a full page advert stating "Sega owners… dream on." in the debut issue of *Mean Machines Sega*.

Although other versions did arrive later and some of them were very good, the game always had the strongest association with Nintendo's hardware. In fact, of the 36 million *Street Fighter* games that have been sold to date, roughly a third of those are different versions of *Street Fighter II* on the Super Nintendo – six million of the original, four million of *Street Fighter II Turbo* and two million of *Super Street Fighter II*. For comparison, *Street Fighter II: Special Champion Edition* on the Mega Drive sold 1.65 million copies and *Super Street Fighter II* failed to crack a million.

While updates had provided diminishing returns over *Street Figher II*'s lifetime, they had kept the game relevant for many, many years and had helped encourage a thriving player base. Capcom would continue using updates in this way as a result, putting out a variety of revised versions of *Street Fighter III* and *Street Fighter IV*. Other developers also adopted the use of interim updates in their own fighting games, with some proving just as prolific as Capcom – for example, Arc System Works produced five revisions of *Guilty Gear XX*. However, the end of this business model may be in sight as Capcom abandoned the practice for its latest game, *Street Fighter V*, which will rely on rolling DLC instead. ▶

M. BISON

SPECIAL MOVES
(CE) Psycho Crusher: 4(Hold),6
(CE) Double Knee Press: 4(Hold),6
(CE) Head Press: 2(Hold),8
(CE) Somersault Skull Diver: (After Head Press)
(SU) Devil Reverse: 2(Hold),8
SUPER MOVE
(ST) Knee Press Nightmare: 4(Hold),646

STAT FIGHTER

The tale of the tape on Capcom's prize fighter

7
Games in the *Street Fighter II* series

65
Character variations available in *Hyper Street Fighter II*

£1000
The amount of earnings a *Street Fighter II* (UK) cabinet could bring in

22.4 billion Yen
The revenue from *Street Fighter II: Champion Edition* sales in Japan alone

24
Number of platforms that received an official version of a *Street Fighter II* series game

200,000
Estimated number of *Street Fighter II* cabinets operated in Mexico

17
Unique characters in *Street Fighter II* series

0
Number of *Street Fighter II* cabinets Capcom sold to Mexican operators

22 Years
How long *Street Fighter II* held the record for best-selling Capcom game

8 Frames
Least forgiving input time limit for a Shoryuken in *Super Street Fighter II Turbo*

15 Frames
Most forgiving input time limit for a Shoryuken in *Super Street Fighter II Turbo*

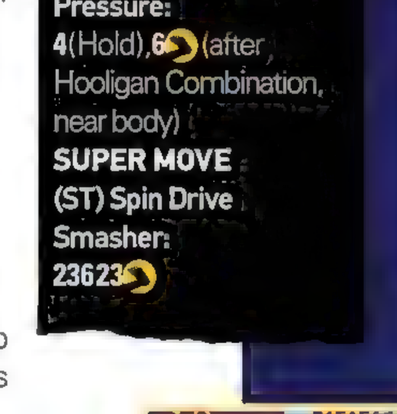
For Capcom, the success of *Street Fighter II* was transformative – not only did the company create further *Street Fighter* sequels, it began to gear its arcade output heavily towards fighting games. This peaked in 1998, when seven of Capcom's nine arcade releases were fighting games – and four of those featured Ryu, in a prequel (*Street Fighter Alpha 3*), a sequel (*Street Fighter III 2nd Impact*), a spin-off (*Street Fighter EX2*) and a crossover (*Marvel Vs Capcom*). This persisted until the decline of fighting games around the turn of the century, but the company also takes the credit for the genre's revival with *Street Fighter IV*.

Street Fighter II reshaped a genre, and its influence continues to be felt today . "With many things popular today, there is heritage. *Star Wars, Final Fantasy, James Bond, Shenmue*, take your pick," says Mark. "There will always be people who will be curious about the roots of something they fall in love with, and with *Street Fighter V* on the horizon, *Street Fighter* is as popular as ever."

But while *Street Fighter V* drives renewed interest in the series, what truly marks *Street Fighter II* out as a stunning sequel is that the staff of the new games often refer back to it. "One of the things that made *Street Fighter II* stand out was that anyone could walk up and hit buttons and leave satisfied," says Peter. "When designing *SFV*, that was one of our core design pillars."

"I suppose we've been inspired by that game all along in how we develop the series," says Ono. "Most game series have new sequels which build upon the design of the previous titles, but *Street Fighter II* really started over from what was created in the original *Street Fighter*. When it came time to move to *Street Fighter III* and Street *Fighter IV*, we really started from scratch each time," the producer elaborates. "It was *Street Fighter II* that started this pattern in motion and now, as I've said many times, *Street Fighter V* is another reset of the game and brings a new roster and new design. So you could say that what *Street Fighter II* did over 20 years ago – wait, it's almost 30 years now! – has continued to influence us."

We get the feeling it'll continue to do so for many more years to come, too.



CAMMY

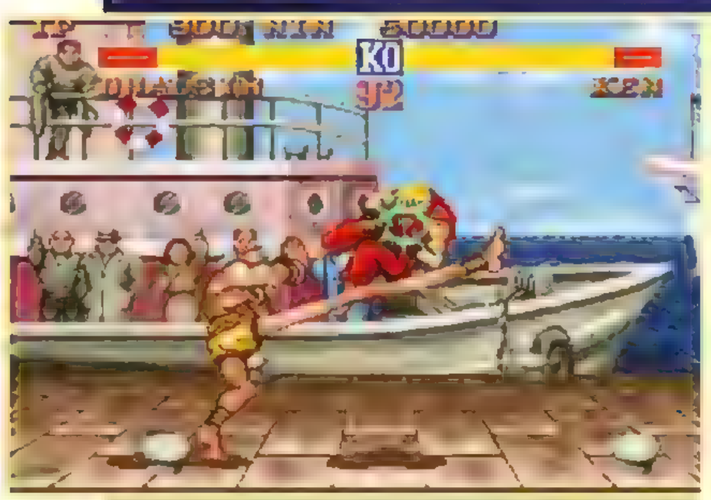
SPECIAL MOVES
(SU) Spiral Arrow: 236
(SU) Cannon Spike: 623
(SU) Axle Spin Knuckle: 41236
(ST) Hooligan Combination: 12369, then
(ST) Fatal Leg Twister: 4(Hold),6 (after Hooligan Combination, near head)
(ST) Cross Scissor Pressure: 4(Hold),6 (after Hooligan Combination, near body)
SUPER MOVE
(ST) Spin Drive Smasher: 23623

CONVERSION CAPERS

We take a look at all the ports of Capcom's arcade smash hit

MEGA DRIVE

■ As with the PC Engine version, this is a port of *Champion Edition*, however, it also adds *Turbo* content. The three-button pad is usable (you use Start to switch between punches and kicks) but special moves are harder to pull off compared to the superior SNES controller. Plug a six-button pad in, though, and it's virtually on par with *Super Street Fighter II Turbo* on SNES.



SUPER NINTENDO

■ Its been superseded by later SNES *Street Fighter* ports, but the original conversion still holds up surprisingly well. It's very close to the arcade game in style (although there is a lot of missing content) and the controls are tight and responsive without the need for extra pads. Little wonder it was deemed the definitive home version of the game upon release.

T. HAWK

SPECIAL MOVES
(SU) Condor Dive: (In air) (All)
(SU) Tomahawk Buster: 623
(SU) Mexican Typhoon: (360)
SUPER MOVE
(ST) Double Typhoon: 2x(360)

ZX SPECTRUM

■ The Spectrum version looks great, but it's saddled by an astonishingly bad multi-load system. Like the other 8-bit ports it does cater for two-button sticks, but the base version — fire and forward for punch and fire and back for kick — is very hard to use.

ATARI ST

■ The Atari ST version suffers from all the same issues as the Amiga but manages to be even worse. The animation is particularly bad and the game is slower than its Amiga counterpart. It's slightly easier to pull off special moves, but it's still a poor port.

» This beautiful sunburst is your reward for knocking out an opponent with a Super Combo. Take that!

COMMODORE 64

■ The C64 version is quick, but that's pretty much all it has going for it. It's a buggy version of the game, with frequent odd pauses during play. Worse still, your characters occasionally get stuck on the backgrounds.

FEI LONG

SPECIAL MOVES
(SU) Rekka Ken:
236(perform up to 3 times)
(SU) Shien Kyaku:
421
(ST) Rekku Kyaku:
12369
(ST) Shuu Kubi Raku:
46(M/H) (in air)
SUPER MOVE
(ST) Rekka Shinken:
236236

SHARP X68000

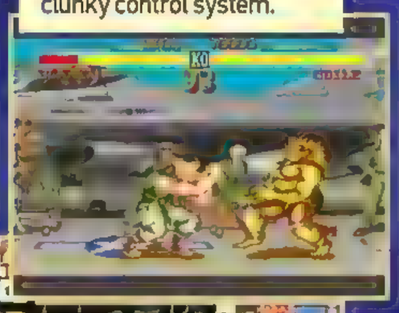
■ This is another *Champion Edition* port and is virtually arcade perfect, with only slightly different music. Control-wise it had the same issues are other home computers, but that's solved with a joystick adaptor. The only thing that ruins it is the constant swapping between four disks on certain systems.

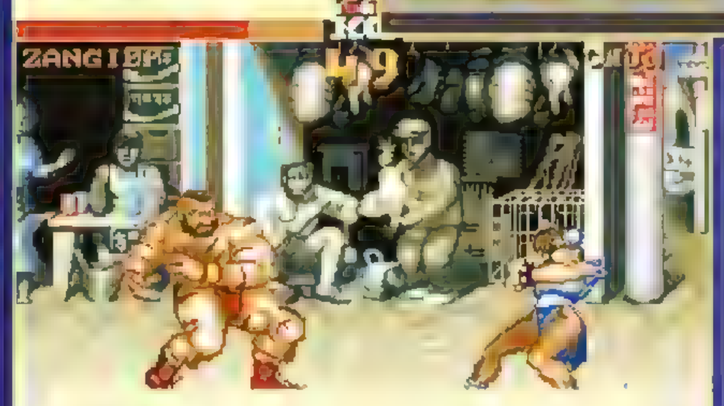
PC ENGINE

■ When you consider the machine, this is a truly astonishing port and in some ways more impressive than the SNES version. It's rubbish to play with a standard pad, but luckily there's the option for six-button support.

DOS

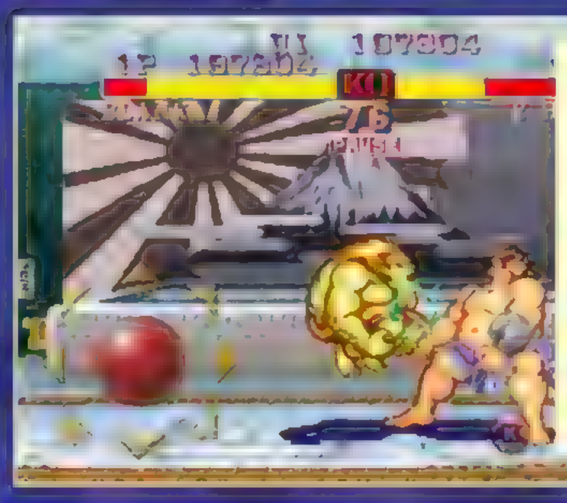
■ The DOS version looks good, and it miles better looking that its Amiga and Atari ST counterparts. Even the animation is decent, although the music is nothing to write home about. It's still ruined by a clunky control system.





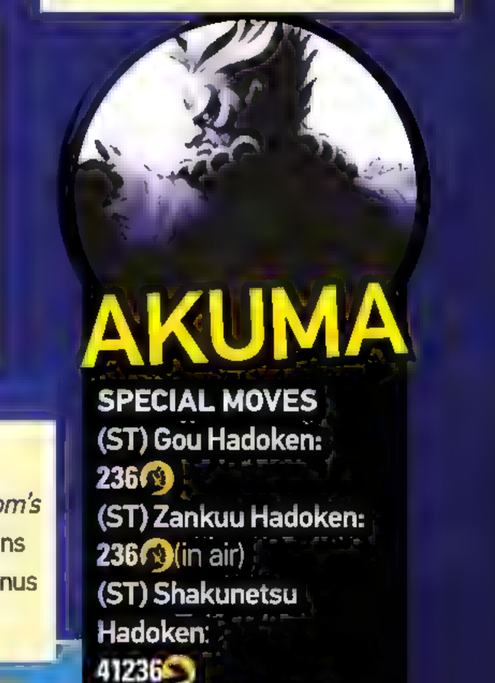
AMIGA

■ Despite some odd colouring the Amiga version looks authentic. But that falls apart once you see it moving, due to jerky animation and poor scrolling. Musically it's terrible, and it's hampered by the same poor control system found on the 8-bit conversions.



iOS

■ This is essentially the compilation released on Saturn and PlayStation, meaning it looks very nice. It's let down by the annoying virtual buttons and stick, though. Thankfully special moves are easy to pull off as they have their own separate buttons.

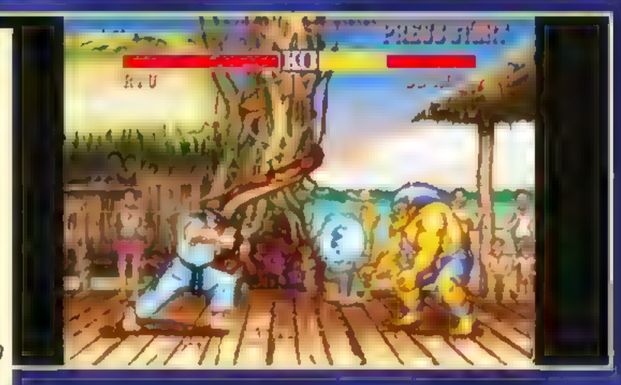


GAME BOY

■ This is a weird hodgepodge edition of games up to *Super Street Fighter II Turbo*. It's very well detailed for a Game Boy game with great looking sprites. It's missing Dhalsim, Vega and E. Honda and only has two buttons. Cleverly though, it changes the strength of kicks and punches based on how long you press the buttons for.

XBOX, PSP, PS2

■ These are emulated versions of the arcade versions. PS2 and Xbox owners want *Capcom Classics Collection Volume 1* with *Street Fighter II, Champion Edition* and *Street Fighter II Turbo: Hyper Fighting*. PSP owners need *Capcom Classics Collection Reloaded*.

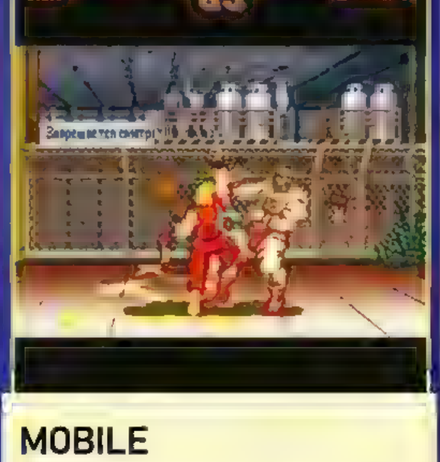


AKUMA

SPECIAL MOVES
(ST) Gou Hadoken:
236
(ST) Zankuu Hadoken:
236(in air)
(ST) Shakunetsu Hadoken:
41236
(ST) Gou Shoryuken:
623
(ST) Tatsumaki Zankukyaku:
214
(ST) Kuchu Tatsumaki Zankukyaku:
214(in air)
(ST) Ashura Senku (Forward):
623(all) or
(ST) Ashura Senku (Backward):
421(all) or

MASTER SYSTEM

■ Based on *Champion Edition*, Master System *Street Fighter II* is clearly cut-down. Dhalsim, Zangief, E. Honda and Vega are missing. It's graphically impressive and has authentic tunes, but is let down by a distinct lack of buttons and poor controls.

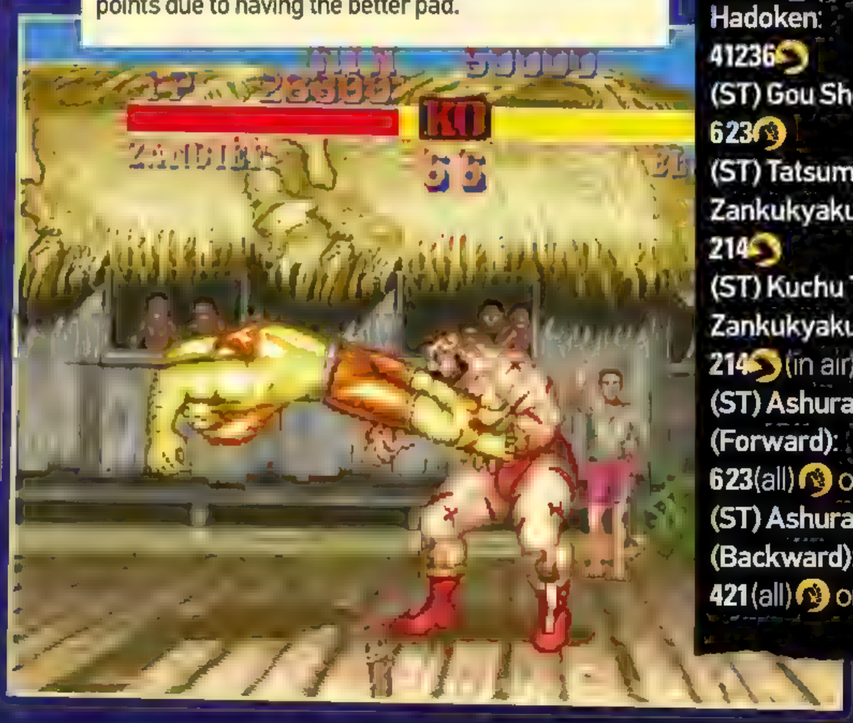


MOBILE

■ While the graphics are accurate, it's stiff and sluggish to play, and playing on a keypad makes it incredibly difficult to pull off special moves. An impressive effort, but a poor game.

PLAYSTATION/SATURN

■ As you'd expect, the versions released on *Capcom's Street Fighter II* and *Capcom Generations* collections are near perfect, with the Saturn ports winning bonus points due to having the better pad.



100 GAMES TO PLAY BEFORE YOU DIE

SONIC THE HEDGEHOG

SEGA

A powerful new 16-bit games console, continued pressure from a portly plumber, and a company firing on all cylinders led to one of Sega's finest hours in June 1991. Discover how a little blue hedgehog became the face of Sega

IN THE KNOW

- **PUBLISHER:** SEGA
- **DEVELOPER:** SEGA/SONIC TEAM
- **RELEASED:** 1991
- **PLATFORM:** MEGADRIVE
- **GENRE:** PLATFORM

Before Sonic span onto the scene in a dazzling blur of cobalt blue, Sega's previous attempts to create a company mascot had been unsuccessful. Their primary intent was to capture hearts in the same way that Mario had done for Nintendo, but nothing seemed to fit. *Fantasy Zone*'s ovoid spaceship Opa-Opa is often referred to as the very first mascot, briefly holding on to the honour until a tracksuit-wearing, rock-smashing prince named Alex Kidd came along and took his paper crown.

But when creating Alex, it's debatable that Sega had hit upon the key ingredients that would give them a character to match the might of Mario. Younger and more athletic than Nintendo's tubby talisman, trained in a martial art and able to drive an assortment of vehicles, Alex exhibited many of the same characteristics that Sega would imbue into Alex's spiny successor. For connecting with a young audience, Alex certainly had a lot going for him. Unfortunately, he had a tough time competing against Nintendo's all-conquering NES, which at one time could be found in 1 in 4 American households.

Two years after the 1989 release of the Genesis in North America, Sega found itself in a fairly strong position stateside. Its arcade machines *Space Harrier*, *OutRun* and *Shinobi* were proving popular coin-guzzlers, and its powerful new 16-bit successor to the Master System was also selling well thanks to its impressive visuals and early library of arcade tie-ins. But conscious that Nintendo was preparing to release its 16-bit successor to the NES any day now, Sega knew it needed to find itself a Mario, and fast.

So it was that Sega of Japan famously set its best designers the task of coming up with a brand new hero to represent the company and its new console. During the initial ideas stage many designs were pitched and considered; rabbits, armadillos, even human characters, but in the end it was a teal-coloured hedgehog that was finally selected, put forward by artist Naoto Oshima, who had previously worked as a designer on the first two *Phantasy Star* games.

Originally dubbed Mr Needlemouse, Oshima's creation went through a number of changes before becoming the zippy blue hedgehog we know today. Early concepts for the character, which were dropped as a result of a makeover by Sega of America, had him playing in a rock band, his mouth drawn with fangs, and in a relationship with a blonde human girl named Madonna.

For obvious reasons Sonic's colour was altered to Sega blue, while Oshima has revealed that Sonic's iconic red power sneakers were inspired by a combination of the belt-strapped boots Michael Jackson's wore on the cover of his album *Bad* and the colour of Santa Claus, whom Oshima regarded

DEVELOPER HIGHLIGHTS

PHANTASY STAR (PICTURED)
SYSTEM: SMS
YEAR: 1988

SONIC THE HEDGEHOG 2
SYSTEM: MEGA DRIVE
YEAR: 1992

SPACE HARRIER
SYSTEM: ARCADE
YEAR: 1985

» Naka feels that *Super Mario Bros.* and *Sonic* both influenced each other.

at the time as the most 'famous character in the world.' Blending all these visual elements together, Sega hoped it had the perfect character to appeal to an American market. All Oshima needed now was a striking game to show his creation off, and it was here that Sega bosses turned to a talented programmer named Yuji Naka.

Naka had become renowned in the company for his impressive programming skills thanks to his excellent work on the Master System game, *Phantasy Star*. He had also proven his skill for tackling the platform genre, with an impressive Mega Drive conversion of *Ghouls'n Ghosts*. And so Sega asked Naka and Hirokazu Yasuhara, *Sonic*'s game planner/level designer, to help Oshima bring Sonic to life and become the driving force in a team of AM8 developers. They were later famously renamed Sonic Team.

When work on the project began, Naka was adamant the game should be fast and exhilarating to show off the impressive processing speed of the Mega Drive. An important cornerstone for the game, Yuji Naka explains how it was *Super Mario Bros.* that inspired him to create the fastest platformer the world had ever seen.

"Every time I played the first stage I wondered why I couldn't clear it faster, the better I got playing it." Naka explains. "This feeling must have been the beginning of the idea of *Sonic*, as you get good at playing you can run through the stage really fast. I think *Sonic* itself turned out to be a totally different concept to *Super Mario Bros.* But I do feel it was a game that affected me very positively. There is a part in *Sonic 1* where Sonic swims in the water and eats bubbles to take his breath to go on. I was very happy when *Super Mario Bros.* later used a similar system in one its sequels, because I felt we were inspiring each other."

Meanwhile, Yasahura's approach to *Sonic*'s level design was to create them in such a way that they would appeal to both casual and hardcore gamers. He set about achieving this by mixing fun level elements with challenging obstacles and moving parts. Of the seven zones in the game, Sonic's opening stage Green Hill Zone became the most iconic. A vibrant place featuring blue skies, lush green grass, chequerboard tunnels and loop the loops; the perfect playground for Sonic to showcase all his abilities. It was a brilliantly attention-grabbing introduction for gamers, and for those who had never owned a

» Green Hill Zone, in all its eye-searing glory, went on to become one of the most recognisable levels in videogames.

THE ANTHRO ALSO-RAN

OF ALL THE CHARACTER designs put forward for consideration to Sega bosses and were dropped in favour of Sonic, it was the character of Mighty the Armadillo that received the most attention. Following the success of *Sonic the Hedgehog*, Sega decided to revisit and polish up the character for an appearance in the Sonic coin-op *SegaSonic The Hedgehog*. In the isometric trackball-controlled coin-op, Mighty worked alongside Sonic and another anthropomorphic character named Ray the Flying Squirrel to escape from Robotnik's booby-trapped island base. Mighty would later appear in 32X title *Knuckles Chaotix*, while Ray just received minor cameos in the recent *Sonic Generations* and the Saturn port of *Gale Racer* (aka *Rad Mobile*), which was the coin-op that marked Sonic's first ever videogame appearance, as a rear-view mirror ornament. Ray was seemingly deserted by Sega, but considering that he's an orange, long-tailed flying squirrel, we suspect the reason could be because he played a big part in the design and character of Sonic's popular sidekick Tails. Either that or Sega simply deemed the characters to be too similar and so they promptly showed Ray the exit.

THE OTHER SONIC 1

RELEASED SHORTLY AFTER the seminal Mega Drive hit, Sega created for its loyal 8-bit fans a unique version of *Sonic the Hedgehog* for the Master System. This 8-bit version differed in a number of ways from the original. It featured a new story and six zones; three based on the original but with altered layouts, and the others completely new. Many of the enemies made it across, as did all of Sonic's moves with the exception of his block-pushing animation. The game's development was handled by Ancient, a Japanese developer managed by revered Sega composer Yuzo Koshiro. Naturally then, Koshiro wrote the music for the game, which was a combination of tunes inspired by its 16-bit counterpart and brand new compositions. Overall, the 8-bit *Sonic the Hedgehog* is a fine standalone Sonic game, rather than a watered down port.

Green Hill Zone's bright vibrant look was inspired by the work of acclaimed Japanese illustrator Eizin Suzuki.

»The inventive bonus rounds quickly became a popular staple of the franchise.

console. So where did inspiration for this iconic stage come from?

"Green Hill Zone was inspired by California," Naka answers simply. "Also we were aiming to show the latest computer graphics at that time, which were using polygon and ray tracing, through pixel art to make it look very new. With regards to the colours, I believe they were inspired by a picture drawn by Eizin Suzuki."

Eizin Suzuki's work frequently features stunning pop city illustrations that look every bit the kind of artwork we'd have expected to see up on the walls inside Sega at that time. Often depicting bright realism with a vivid surreal edge, one piece in particular instantly catches our attention. It shows a classic red open-top sports car parked beside a welcoming beach-side restaurant. With its deep blue skies and engagingly expressive colours, the connection is clear.

From a technical perspective, Naka says that the biggest challenge in getting the Mega Drive to accommodate *Sonic* came from the processing speed of its hardware. And with *Sonic* pushing the Mega Drive in a way that no game had done before, there were several features that Naka and his team wanted to incorporate into the game, but with space and time constraints were unable to. Interestingly, one of these omitted features would later provide the starting point for the sequel, while another inadvertently give rise to a popular Sega motif.

"There were two features that we were not able to put into *Sonic 1*," Naka explains. "The first one was to support two players playing at the same time. At the last point of developing *Sonic* we were doing tests with splitscreen in order to allow two players to play at the same time. But my technical capability wasn't enough to allow the game to be completed with this feature. When we began work on *Sonic 2* we tested this first to ensure that a two-player game system was achieved before properly starting the project.

"We also tried to prepare a sound select screen, with pictures of Sonic's band, and Sonic singing and break-dancing. The pictures were mostly completed but we couldn't make this feature fully completed on schedule, so it was rejected. But the storage on the ROM to put this feature in was available because of this, so we added the "Sega" voice on the part where we showed the Sega logo. In the end, I think this was a good idea."

From the initial concept for *Sonic* that saw him playing in a rock band to the revelation of a sound select screen that had to be dropped, it's clear that Naka and his team always intended for music to play an important part of the game. We were therefore keen to find out how much planning went into that particular aspect, and how the team ensured it would enhance the overall experience for players as successfully as it did.

"It was just around the time when music in games was first getting exciting, so we asked Masato Nakamura, a member of Dreams Come True [a famous pop band in Japan] to make the music for each stage sound like it was based on each stage's image. *Sonic* also put

ZONED OUT

The many levels of Sonic The Hedgehog

GREEN HILL

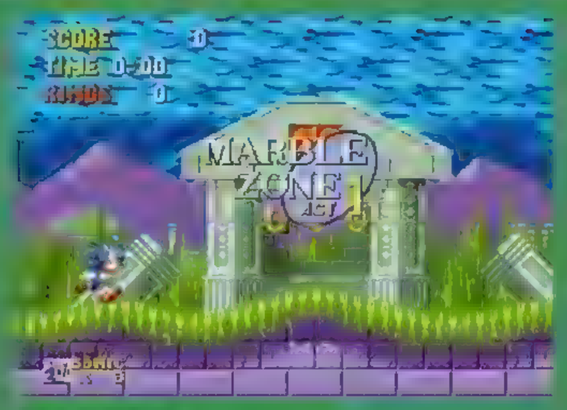
This gorgeous zone is relatively easy to navigate thanks to its large stretches that feature very few enemies or hazards. Loops are in abundance, and Sonic is able to reach insane speeds. This is arguably one of the most iconic videogame levels of all time.

LABYRINTH

The maze of Labyrinth Zone can be a real headache to navigate. In addition to having to make your way from some trickily designed stages, many of the levels are mostly underwater. Sonic can only hold his breath for a limited time, so you need to find an air bubble or drown.

STAR LIGHT

Speed freaks will adore Star Light, as Sonic can really zoom through it. Many of the levels are filled with loops and enable Sonic to reach hyper-fast speeds. It has a real rollercoaster feel to it, but care must be taken as while there are only a few enemies they are often impervious to Sonic's attacks.

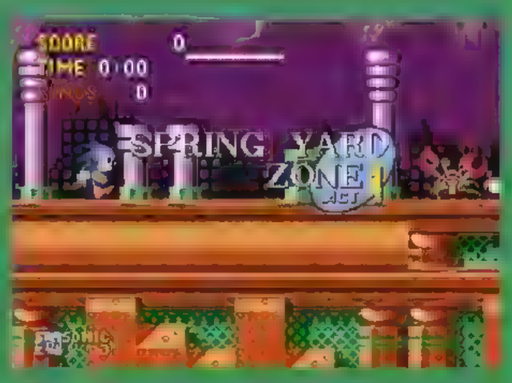


MARBLE

As its name suggest, Marble Zone is made of Marble. It's also a very hazardous zone, thanks to a large number of nasty spikes, falling chunks of ground, and trickling lava that Sonic needs to navigate. There's a lot of block pushing on this level, and therefore less whizzing.

SPRING YARD

We like Spring Yard Zone, and not just because it appears like a giant pinball table. It can be a little frustrating to negotiate due to the many bumpers and springs it features, but careful movement is the key to success. It also features plenty of cool secrets to discover.



SCRAP BRAIN

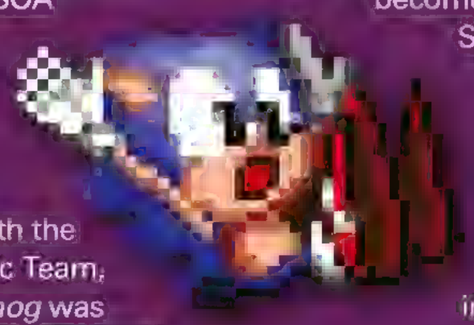
This is a truly frustrating level with all sorts of devious and downright nasty traps for Sonic to deal with. Conveyer belts, vanishing platforms and intermittent gas ruptures (which send up gouts of flame) all combine to make this a hellish stage that will require all your skills to negotiate.

FINAL

This isn't really a zone. It's where Sonic must race off against Dr Robotnik for the final time. It's little more than a short corridor which ends in a large room filled with dangerous energy balls and plungers that try to crush poor Sonic. Kill Dr Robotnik for the win.

a lot of pressure on us not only in regards to the music but the sound FX and jingles. We fixed these quite a lot to allow them to make players feel good while they play the game."

Initially Sega of America had doubts about Sonic's American appeal, concerned that Americans wouldn't know what a hedgehog was. However, following a few tweaks by SOA to soften up the character for Western gamers, a change that at first didn't go down too well with the members of Sonic Team, *Sonic the Hedgehog* was finished and released in 1991.

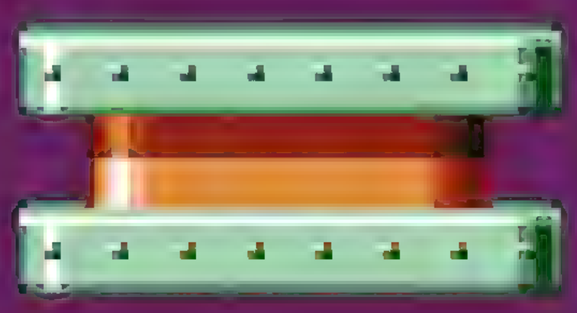


Looking more coin-op than console game, *Sonic the Hedgehog* helped to bridge the gap between those two markets more successfully than any Mega Drive title previously released, and became an instant hit. And when Nintendo finally released the SNES in North America later that year, it led to one of the biggest and most memorable console wars in gaming history.

Following an aggressive marketing campaign by SOA, Sonic quickly become synonymous with Sega. And when Sega of Japan gave into its initial reluctance to offer the game as a pack in with Genesis consoles, Sonic went on to play an even big role in helping Sega take majority share of the North American games market away from Nintendo.

Sonic's contribution to Sega's success certainly cannot be underplayed. But looking back on this most important of Sega success stories, which aspect of Sonic the Hedgehog is Naka most proud of?

"I think the fact the game is designed to be very fast but can also be controlled, and allow you to zip through the game nicely, is the part which I am most proud of," he concludes. "Many thanks to Sonic Team members for putting great effort into this part. I am also proud of Sonic being played by so many people around the world. Thank you so much."



Super Castlevania IV

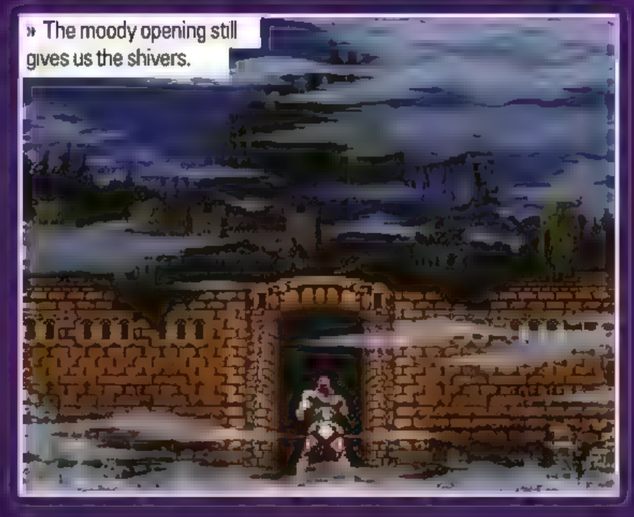
It heralded the evolution of the franchise into 16-bit and was a technical showcase for the SNES. John Szczepaniak speaks with main programmer and total director, Jun Furano – known by his real name, Masahiro Ueno

KNOW

- **PUBLISHER:** KONAMI
- **DEVELOPER:** KONAMI
- **RELEASED:** 1991
- **PLATFORM:** SNES
- **GENRE:** PLATFORMER

Masahiro Ueno – or Mitch to his friends – has been involved with a lot of amazing games. Not that you'd always know this, as he was often credited as Jun Furano. "I used 'Jun Furano' as Konami did not allow us to use real names in game credits back then," reveals Ueno. "I made up the name after a Japanese TV drama called *Kita No Kunikara*. It took place in Furano, Hokkaido, and Jun was one of the main characters." This fish-out-of-water series was very popular in Japan, and involved a father taking his two children to live in the countryside.

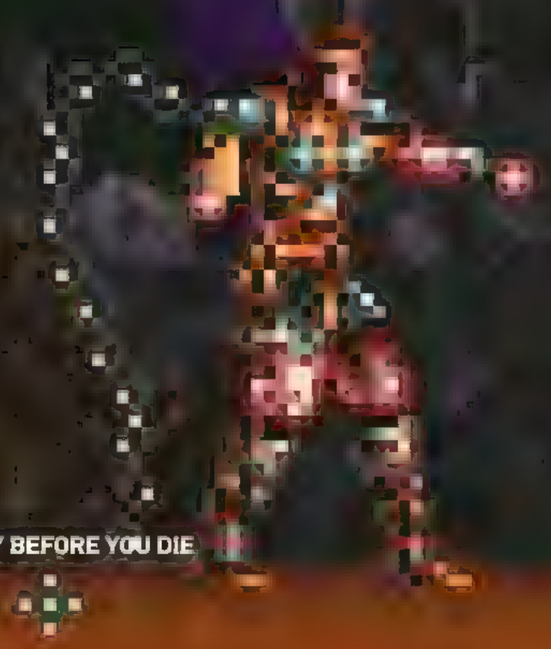
It was common policy in the old days not to credit developers, or to do so under a nickname. Western fans have speculated if it was to prevent headhunting – the impression being that, in Japan, with the 'job for life' culture at the time, people seldom changed jobs. "I think it was to prevent headhunting," says Ueno.

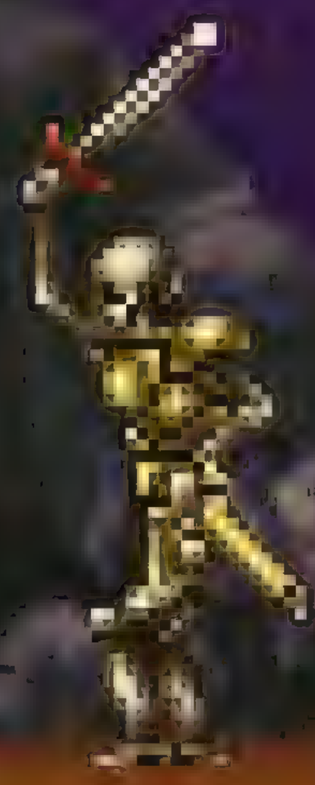


» The moody opening still gives us the shivers.

"People move more often these days, but many of my old friends are still with Konami."

Unfortunately, this discrepancy with names means that websites aren't always complete. "MobyGames is missing some of the games I worked on," admits Ueno. "Such as *Track & Field II* on the NES, *Lethal Enforcers* for the Mega Drive and many more recent games." As a fresh university graduate when joining Konami, Ueno's first game was an educational title for the Famicom Disk System that was ultimately cancelled. His second game, which was his first to ship, was porting *Metal Gear* from the MSX2 to the



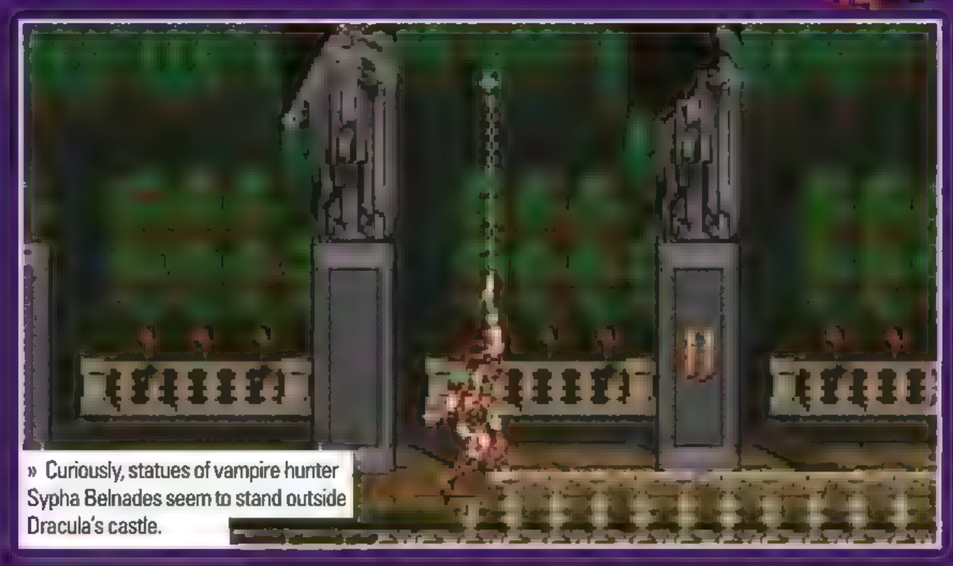


Famicom in just three months. Changes were made at the request of management to differentiate the two versions – this also due to the limitations of the available Mapper chips. It was still an impressive achievement, and the game sold copious amounts in America.

Ueno continued to work with the Famicom on Japan exclusive games like *Ganbare Pennant Race!* and *MADARA*. In later years, he supervised Konami classics such as *Contra III* and *Axelay*, and played an integral role in the *Lethal Enforcers* series (including as an actor in the sequel). But, his first 16-bit role was *Super Castlevania IV* – aka *Akuma*jo Dracula in Japan – as the main programmer, enemy and boss programmer, as well as overall director.

Super Castlevania IV was released in October 1991 for the Super Famicom, but working out when development started requires some detective work. For the sake of clarity, hereafter all mainline Castlevania games will be referred to as CV, followed by their number. "I don't recall exactly when we started the project," ponders Ueno, thinking back. Describing his thought process, the feeling is that it could have been in early 1990, but then he has a revelation: "CVIII on the Famicom was developed almost in parallel with CVIV, by the same people behind CV and CVII. We all worked closely with the sound team – Konami had the best sound team and they really did a great job." This is fascinating for several reasons. Firstly, the main team behind CV has never been disclosed as the original release featured fictional names. It also means that the original NES trilogy was developed by the same core team, while Ueno's team was brought in to get to grips with the new Nintendo hardware.

CVIII was released in Japan on 22 December 1989, meaning that Ueno would have had to have started before this, possibly using only proposed design specs for the as yet unreleased Super Famicom. "You are right," he concurs. "CVIII was released in late 1989, so the timeline [has to] match." Ueno adds, "I think we started CVIV almost as soon as we got the information from Nintendo, so we probably started the development of CVIV in 1989. I am not too sure though. It was more than 20 years ago!"



» Curiously, statues of vampire hunter Sypha Belnades seem to stand outside Dracula's castle.

> **We started with a small R&D team, without actual dev kits. We only had a hard copy of specification documents**
>
> MASAHIRO UENO

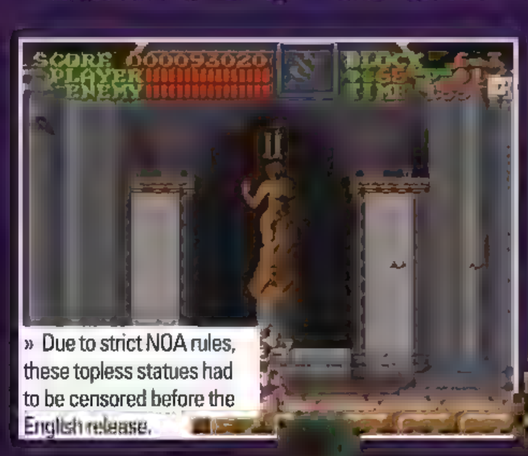
It's important to understand the underlying context of this era. The technological jump from the Famicom to the Super Famicom (released November 1990) was massive, with more noticeable results than the jumps we see today. How did it feel being on the cutting edge? "Naturally, we were so excited to work on the new console, as we felt we'd done everything we could do on the Famicom without additional chips in the cartridge." Ueno then reveals another clue that his team must have begun long before the Super Famicom had actually been released. "We started with a small R&D team, without actual dev kits. We only had a hard copy of specification documents."

"The Super Famicom was definitely more powerful than the Famicom, especially in graphics and sound," states Ueno, "but the CPU is a bit more difficult to work with as it's more like a slightly faster 8-bit CPU with integrated bank registers," he continues, detailing the technical side of SNES development. "Unlike modern consoles, we had access to all the hardware registers and we had to figure out how to use those effectively, which I really enjoyed. But, it took us some time and experiments to find the right ways to use various tricks during actual gameplay."

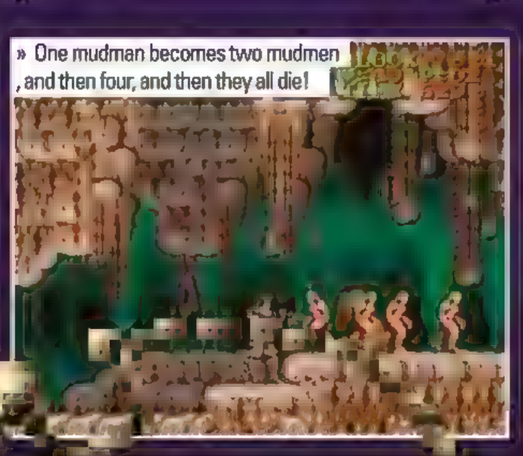
CVIV was the ninth release for the series – previously, there were three mainline Famicom games, unique standalone titles for the MSX2 and arcades, two Game Boy releases, plus a Famicom spin-off featuring Dracula's son. Castlevania was obviously important for Konami, as Ueno concurs. "The expectations were really high, as it was already a successful franchise and now on the new 'super' hardware. Personally, I liked the original CV the most back then. Of course, I played them all before we finalized the direction of CVIV."

Ueno proudly declares, "I wanted to make CVIV a pure action game without ▶

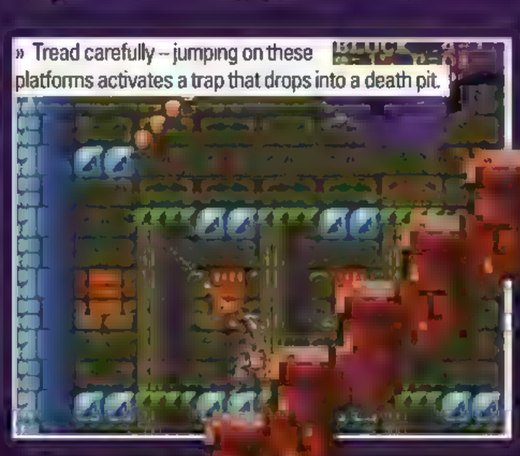
» Mode 7 sections like this started out as experiments, and then Ueno and his team thought of how to add fun gameplay.



» Due to strict NOA rules, these topless statues had to be censored before the English release.



» One mudman becomes two mudmen, and then four, and then they all die!



» Tread carefully – jumping on these platforms activates a trap that drops into a death pit.

ROGUE'S GALLERY

Your guide to Super Castlevania IV's superb bosses

MEDUSA

One of the series' most iconic enemies – appearing in just about every game, and based on the Greek legend of Perseus. In a beta video it seems that this boss appeared slightly different to the final version.

KORANOT

Known as Big Stone in the Japanese manual, the golem boss is Ueno's personal favourite. It first appeared in the *Haunted Castle* arcade game, and went on to feature regularly in the series.

PUWEYXIL

First seen in *Super Castlevania IV*. Known in Japan as Death Breath Head, the English name must be read backwards. It features a sprite-jointed tongue, impressive transparencies and real-time damage to the background.

ORPHIC VIPERS

Known in Japan as soutouryuu, meaning double-headed dragon, similar bosses also appeared in the earlier *Castlevania III* and *Boku Dracula-Kun*. It made a return in *Dracula X* on PC Engine and SNES.

THE MONSTER

...ot named as such, this iconic bos... unmistakably based on the ...reature made by Dr Frankenstein, as ...eatured in Mary Shelley's eponymous novel. A series regular.

ZAPF BAT

One of the game's coolest bosses. Although giant bats have featured in just about every *Castlevania* game, only in *Castlevania IV* is one made out of possessed treasure!

AKMODAN II

Another series veteran appearing in most *CV* games, except this time he's been given a name in the US manual, reinforcing his Ancient Egyptian heritage.

SLOGRA

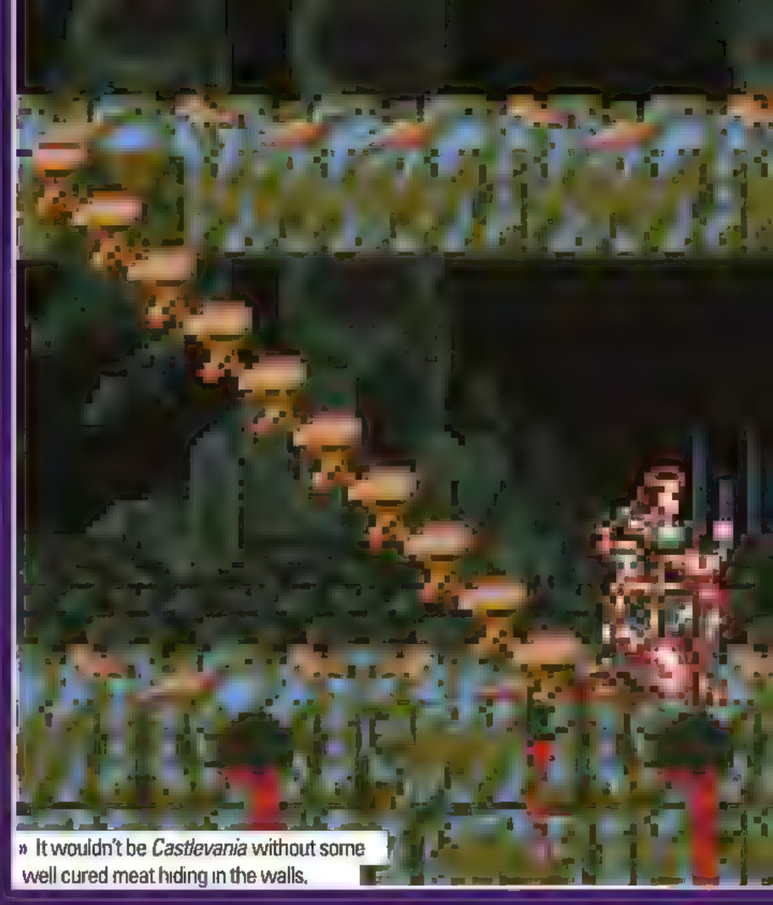
A unique boss created specifically for the final section of *Castlevania IV*, and one of the toughest. Slogra resembles a zombified pterodactyl. It was later re-used for *Symphony Of The Night* and subsequent games.

GAIBON

Another unique end boss created specifically for this release that you fight directly before Dracula. As with Slogra, Gaibon was re-used for *Symphony Of The Night* and subsequent games.

DRACULA

The main attraction. Having said that, the Japanese series name of *Akumajo Dracula* actually places more emphasis on the Count's 'demonic castle', than the vampire himself.

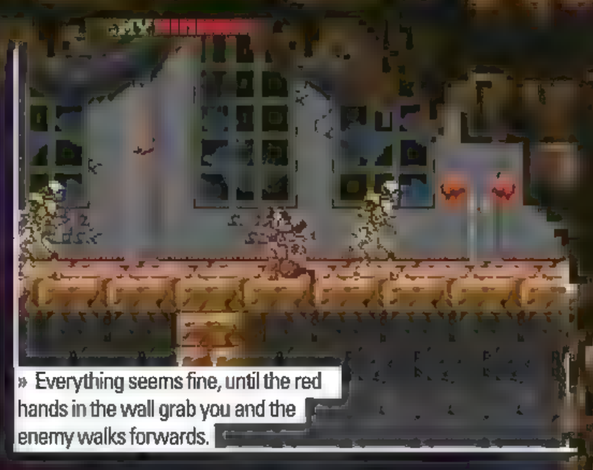


» It wouldn't be *Castlevania* without some well cured meat hiding in the walls.

any RPG elements, similar to the original CV." This also brings up overlap with its direct predecessor. He continues, "CVIII is a great game though. If CVIII had [already been released] before we started CVIV, I would have followed that direction." The two games definitely share some DNA though, notably the twin-headed water dragon boss and a cameo appearance by CVIII's Sypha Belnades (in statue form), just before entering Dracula's castle.

"Because the team was small," explains Ueno, "everybody was involved in the design. Some ideas came from creative artists and others were from programmers' experiments. The whip feature was really a big part of the game and it was experimented with and implemented by Yaipon. We drew maps on paper but I think we changed a lot as we iterated the game." Yaipon, also known as Yaiman, was of course Mitsuru Yaida, who programmed the player's character. He left Konami along with others to form Treasure, later programming Gunstar Heroes.

Ueno, meanwhile, was in charge of boss programming, so we asked about their design and his overall favourite. "I came up with rough boss ideas first and then [additional] programmers came up with more detailed patterns as they implemented. We wanted to make earlier bosses relatively easy so that the players could figure out weak points and effective weapons without retrying too many



» Everything seems fine, until the red hands in the wall grab you and the enemy walks forwards.

times. For some bosses and traps we decided to use Mode 7 first, then came up with ideas. I like the golem boss, simply because it uses Mode 7."

There's debate regarding whether CVIV is a remake of the original, which is controversial since it contains so many revolutionary elements – a better example of a remake would be Akumajo Dracula on the X68000 computer. But what does CVIV's director think? "I consider CVIV as a remake of the original CV to some extent." But what about all the new features, like being able to leap on and off of stairs freely? "The original CV is a great game, but I felt it was a bit too difficult and many players got frustrated," continues Ueno. "The changes in the 'stair behaviour' was to give more control to the players and reduce the frustration. The new whip system was to introduce some new gameplay that had not been possible on the Famicom. We had freedom to make many changes, but we wanted to keep the game aligned with the original CV."

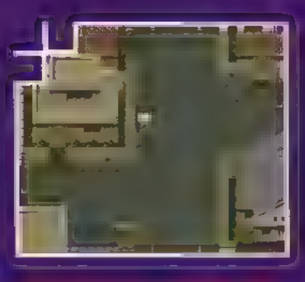
It wasn't always easy though, as Ueno tells us, "Like many other games, we had a long crunch time. Making a game on new hardware requires so much effort, so the crunch time lasted almost six months. But, we were so excited to work on the game. When the game was completed, as is always the case, I had mixed feelings. I was very satisfied with the fact we finally completed the game, but I also wanted more time to polish it."

Ueno is a bit unfair on himself though. Konami released a promotional video from an early build and, when you compare this early footage to the final version, it's astounding how much polish the team managed to add. "I was not aware of this promotion video, but it seems the footage was captured from an early build," admits Ueno, when given the YouTube link. We ask if anything was removed from this build due to memory restrictions, citing a snake-like boss which is different to the final Medusa. "I don't recall any severe memory restrictions back then, so I think these changes were made to improve gameplay."

CVIV is a phenomenal showcase of programming skill and design talent. Reflecting on this, we asked what Ueno was most proud of. "In addition to the new gameplay, I wanted to make the environment more interactive and lively. The music and sound effects really contributed to make the game's atmosphere spooky and real. So, I am proud of the atmosphere we created." And, would he change anything if he had a time machine? "I would probably add more branches to give the players a sense of exploration as found in other Castlevania games."

> **"Everybody was involved in the design. Some ideas came from creative artists and others were from programmers' experiments"**
> MASAHIRO UENO

While the fantastic Indiana Jones-style whip swinging wasn't resurrected for later instalments, CVIV still redefined a template that influenced the series for years to come, notably through several unique enemies which featured in Symphony Of The Night. What about the other 16-bit console releases on PC Engine and Mega Drive? "I remember I gave some feedback to the Mega Drive team, as the lead and I worked on the same projects before. I only had a little interaction with the PC Engine team as they were in a different group," admits Ueno. "Both games are great, and [the] PC Engine version brought the game to the next level."



METAL GEAR
SYSTEM: FAMICOM
YEAR: 1987

MADARA II
(PICTURED)
SYSTEM: SUPER FAMICOM
YEAR: 1993

LOST IN BLUE
SYSTEM: DS
YEAR: 2005

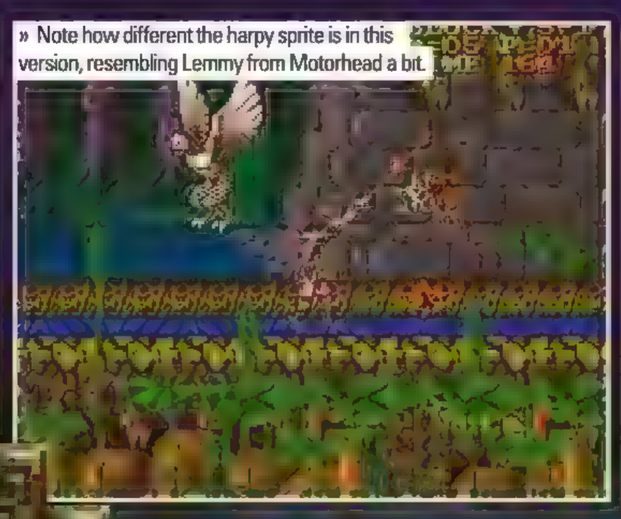
» Despite swinging being one of the best things about *CVIV*, it was strangely absent in future 2D instalments.

In addition to its own lineage, CVIV influenced other developers, such as C-Lab with Rusty for PC-98 and DOS computers. In this case it was almost a direct copy, right down to the whip swinging. "No, I am not aware of this game," declares Ueno. What's interesting about Rusty is that it was released in July 1993, predating Dracula X on PCE by over three months. Rusty also featured a screen-filling 'item crush' attack, which first appeared in an official Castlevania game with Dracula X. According to a detailed analysis on VGMuseum there are about 16 major similarities with the later released Dracula X, implying that the influence went both ways.

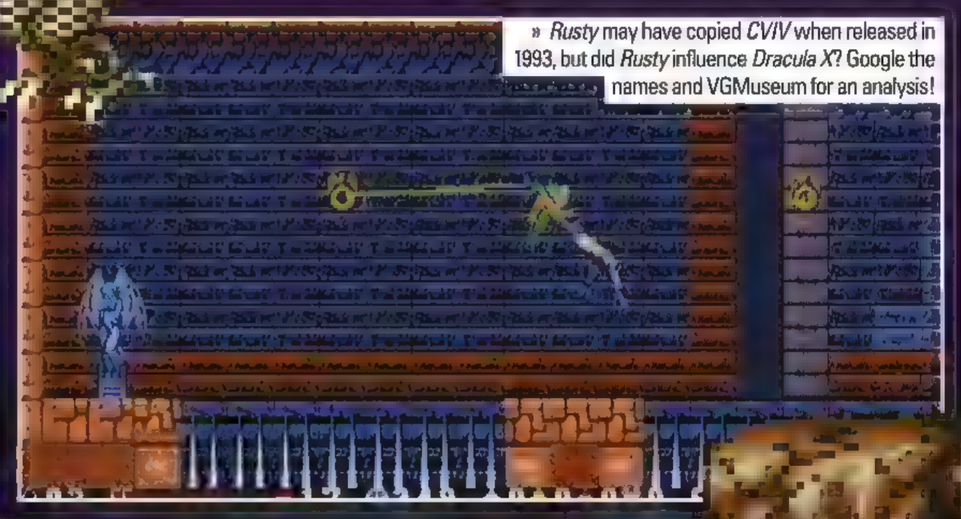
In the years following CVIV, Ueno eventually moved to Konami's US branch, heading up games like Project Overkill for PSone. Looking over the list provided, Ueno has worked on more than 60 games over the last 25 years, including as a producer on Lost In Blue, the Frogger series, TMNT and various Sims games while at EA. He's an unsung hero in an industry that favours anonymity.

Before parting company, we asked if he knew why Contra III was ported to GBA but not CVIV, and if he'd followed the release of CVIV on the Virtual Console. "I was not a part of porting discussions so I don't know," says Ueno regrettably. "I do have CVIV on my Wii though!" And with that, join him in the Director's Commentary section as he talks us through the various stages...

Special thanks to *Castlevania* expert Kurt Kalata for his help with this feature.



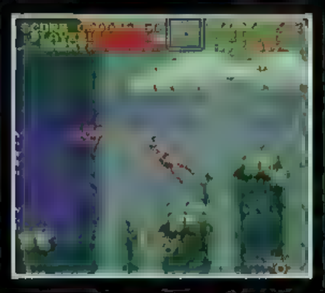
» Note how different the harpy sprite is in this version, resembling Lemmy from Motorhead a bit.



» *Rusty* may have copied *CVIV* when released in 1993, but did *Rusty* influence *Dracula X*? Google the names and VGMuseum for an analysis!

SUPER CASTLEVANIA IV THE DIRECTOR'S COMMENTARY

Masahiro Ueno gives us the lowdown on Super Castlevania IV's creepy castle



STAGE 3

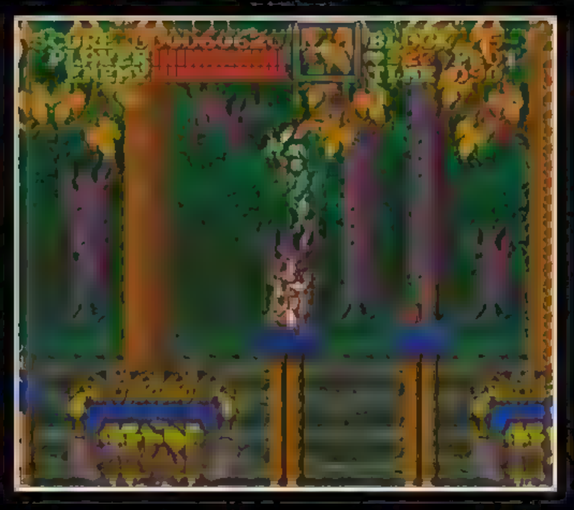
Although there are no branching paths in *Super Castlevania*, we tried to make every stage different. There are four sections in this stage: you start outside, enter the caverns, climb a waterfall and finally, enter the moat area.

STAGE 4

This series of stages nicely shows how powerful the new hardware was: boss transparencies and jointed sprites, plus Mode 7 for the rotating room, spinning bridge, and final golem boss. I think it shows *Super Castlevania* at its best.

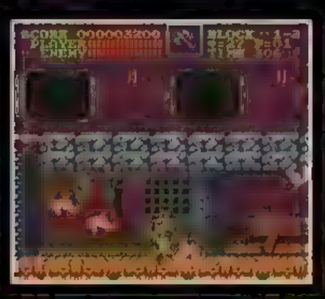
STAGE 5

This is a short stage and there's no boss at the end. Also, the timer has been reduced, because we wanted to increase the feeling of rushing forward as players finally entered Dracula's castle. Now it really begins!



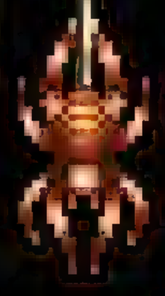
STAGE 2

Konami released a promotional video from early development. If you compare it to the final release, you can see how we polished the river section by adding more background details and improving the transparency effects. We also redid the Medusa boss.



STAGE 1

Some names were changed during translation into English. In the Japanese original, the flying horse heads were called 'Uma no Namakubi', loosely meaning 'freshly severed horse head'. In the English release it was changed to Mr Hed.



STAGE 6

You only see one swinging chandelier at a time because Mode 7 only rotates a single large background layer. If you're stuck on the boss check the wall before the steps, we hid a 1UP. Also, did you find the crying man and his dog?

10

9

8

7

6

5

4

3

STAGE 7

To keep players interested we continued to add new things to later stages. Here you will encounter the moving book platforms, and also two unique regular enemies: a giant centipede and a carpet monster that pushes you into spikes.

STAGE 8

I've been told players ask about the blood changing from red to green. I worked on both Japanese and English versions, so yes, I am aware of the changes. It's not serious – we were simply asked to change the colour palette.

STAGE 9

Always keep an eye out for any whip hooks high up. There's one area where you need to swing across to reach some power-ups. If you fall, you'll notice we placead the hooks slightly too high to reach from the ground.

STAGE 10B

I don't think many players discovered this at the time, but there's a secret area just before the final staircase to Dracula. Today with the internet, I think players have found all the secrets we added – or have you?

STAGE 10A

It would not be a proper *Castlevania* game without a clock tower and spinning gears. The Super Famicom allowed smoother animation for the cogs turning. Using your whip to hang from moving chains also allowed for new styles of gameplay.

100 GAMES TO PLAY BEFORE YOU DIE

STREETS OF RAGE

Artist Atsushi Seimiya explains how he helped create Sega's answer to Final Fight

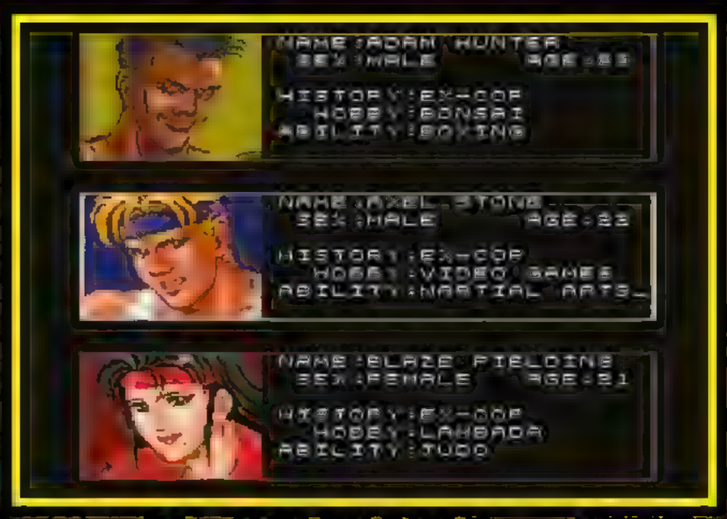
IN THE KNOW

» **PUBLISHER:** SEGA
» **DEVELOPER:** SEGA AM7
» **RELEASED:** 1991
» **SYSTEM:** VARIOUS
» **GENRE:** BEAT-'EM-UP

It's hard to imagine today, but during the Eighties and Nineties, scrolling beat-'em-ups reigned supreme – particularly in arcades. Ever since Yoshihisa Kishimoto had perfected the formula with *Renegade* and the superb *Double Dragon* every other developer was eager to replicate the success, and many succeeded with their own long-running franchises.

Although Sega created several entertaining efforts during this time – *Altered Beast*, *Golden Axe* and *Alien Storm* – it was Capcom that truly ruled the genre, thanks to massively popular hits like *Dynasty Wars*, *Captain Commando and Final Fight*. The exploits of Haggar, Cody and Guy as they cleaned up the streets of Metro City turned into a big money spinner for Capcom, and *Final Fight* was soon licensed to numerous home computers, from the ZX Spectrum to Commodore's 16-bit Amiga. Nintendo quickly realised the popularity of Capcom's game, and locked it in as an early exclusive for its Super Nintendo.

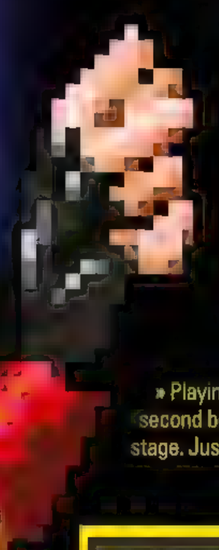
Even though it lacked the cooperative play of the arcade original and was missing an entire level (the Industrial Area in case you're wondering), it still proved to be a huge success for Nintendo and Capcom – so much so that two exclusive sequels were released on the console. Sega in the meantime was relegated to the sidelines, forced to look helplessly on while one of the arcade's most popular games was playing on its rival's console. History would reveal that an arguably better port of the popular beat-'em-up would eventually appear on Sega's very own Mega-CD, but that debut was still years off and Sega couldn't predict the future. It needed a game that would beat Nintendo's popular exclusive and it needed it now.



» Here are your three main heroes. We're ersonally big fans of Blaze Fielding.

The answer of course was to simply make its own game that did everything *Final Fight* did and more. That answer came in the form of *Streets Of Rage*, which debuted on Sega's Mega Drive in August 1991, some nine months after *Final Fight*'s successful SNES release. **Retro Gamer** was fortunate enough to speak with Atsushi Seimiya about his work on the iconic scrolling beat-'em-up. Currently he's the manager of AM R&D1, but during the creation of *Streets Of Rage* (or *Bare Knuckle* as it was known in Japan) he worked as an artist. The first question we asked was whether *Streets Of Rage* was always planned as Sega's answer to the popular SNES exclusive. "I cannot deny that it was not," is his honest reply. "Actually we bought a machine and studied it a lot as a team."

The team's close scrutiny of Capcom's game paid off. While it's not quite as slick as Capcom's original arcade release, it easily offered



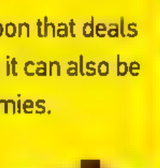
» Playing with a friend adds a second boss to the end of each stage. Just to keep things a little more challenging.

» Here's a look at the Western and Japanese box art. We'd argue that *Bare Knuckle* is a much cooler name.

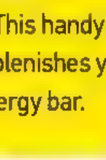
POWER-UP!

Take on the gangs with these handy items

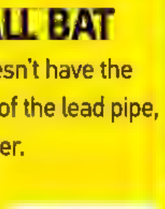
BOTTLE
■ You'll only get a few hits with this weapon so try to use it sparingly.



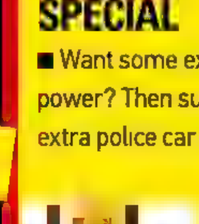
APPLE
■ Take a bite out of this apple and receive a quarter of your energy bar back.



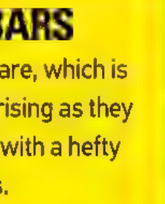
PEPPER SHAKER
■ Chuck it at an enemy then rip him apart while he's having a sneezing fit.



1-UP
■ It's tough on the streets, so pick this up in order to net yourself a handy extra life.



LEAD PIPE
■ Has the best reach by far in the game, but is quite slow and clunky to use.



CASH BAG
■ Thugs just leave their money lying around, so pick it up for a quick 1,000 points.

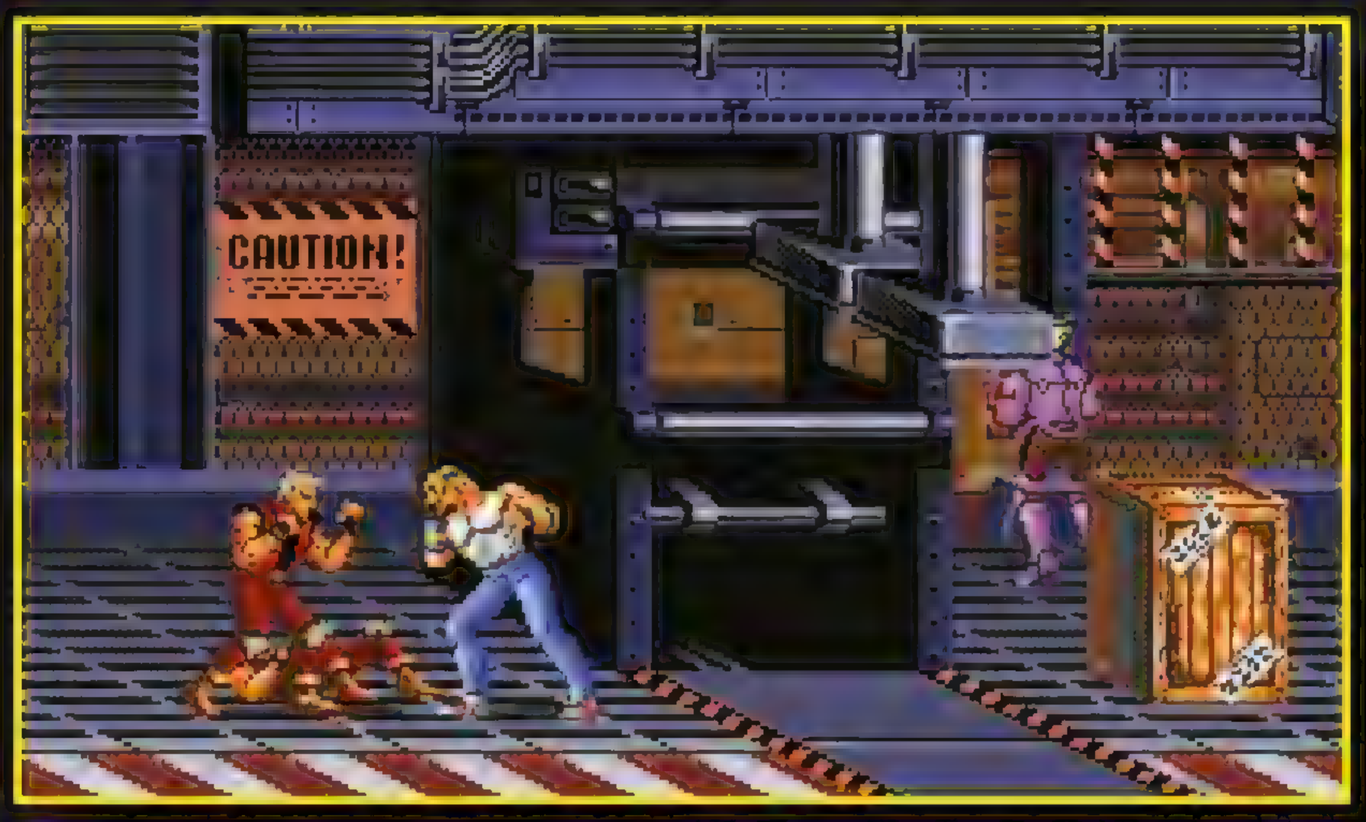
KNIFE
■ A fast weapon that deals high damage, it can also be hurled at enemies.

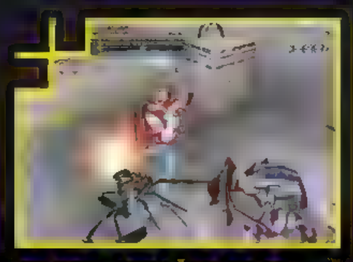
BEEF
■ This handy slab of meat replenishes your entire energy bar.

BASEBALL BAT
■ While it doesn't have the insane reach of the lead pipe, it's a lot quicker.

SPECIAL
■ Want some extra attack power? Then summon an extra police car with this.

GOLD BARS
■ Suitably rare, which is hardly surprising as they reward you with a hefty 5,000 points.





DEVELOPER HIGHLIGHTS

PHANTASY STAR
SYSTEM: MASTER SYSTEM
YEAR: 1987

SAKURA TAISEN
SYSTEM: SATURN
YEAR: 1996

NIGHTSHADE (PICTURED)
SYSTEM: PLAYSTATION 2
YEAR: 2003

» Each player has a unique special weapon attack. This one is by far the coolest.

» *Streets Of Rage* has an industrial stage. Take that SNES *Final Fight* fans, you had to go without.

plenty of benefits over the SNES port, most notably the fact that you could play with a friend, boosting the enjoyment of the game. Sega's game allowed you to choose from three brawlers who had all been slighted by nemesis Mr X, who controlled the city and even its police force. Like *Final Fight* each character is unique, each with their own strengths and weaknesses. Adam Hunter is clearly based on Haggar, being a slower, but heavier-hitting character, able to make mincemeat of groups. Blaze Fielding on the other hand plays more like Guy, being far quicker than her two male counterparts, but unable to take heavy hits. The last character is Axel Blaze, the everyman of the group who has Cody's all-round abilities but is hampered by a slightly weaker jump than his two companions. All three are ex-police, and have sworn to bring Mr X to justice.

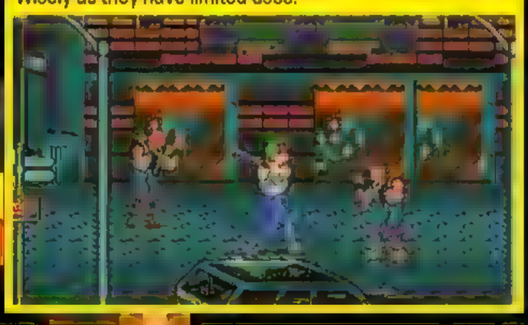
We were keen to know the involvement that Seimiya had during the game's production. "As an artist, I worked on a wide range, from the player character, terrain, and the Boss, etc," he explains. "It was my first time working on the player character, so I had to go through a bunch of re-takes." It may have been a baptism of fire for the young artist, but the constant redesigns certainly paid off. Like *Final Fight*, *Streets Of Rage* has an interesting mix of gritty urban environments and cartoon-like characters. Many of the levels are quite similar to Capcom's game, with locations based on downtown streets and industrial areas. The variety is expanded with the addition of lovely stretches of beach, an exhilarating lift ride (no scrolling beat-'em-up is complete without one) and the final arduous trek through a corridor that leads to Mr X's penthouse, which effectively doubles as a boss rush for all the previous bosses. Unsurprisingly there was little originality to *Streets Of Rage*'s look with Seimiya admitting that Sega was simply delivering what it believed the public wanted. "*Final Fight*, *Double Dragon*... many arcade games back then were using the realistic game settings, and I think it was simply a trend," admits Seimiya.

It may have looked very similar to some of the more popular brawlers of the time, but Sega's game still managed to stand apart thanks to its varied locations, interesting level design and challenging bosses. It also boasted a menagerie of interesting enemies and bosses that came in a variety of shapes and sizes. In addition to the usual street thugs, there were guys who looked like rejects from *Teenage Mutant Ninja Turtles*, dominatrixes with vicious whips, crazy-haired planks juggling axes and flaming torches and well-dressed martial artists.

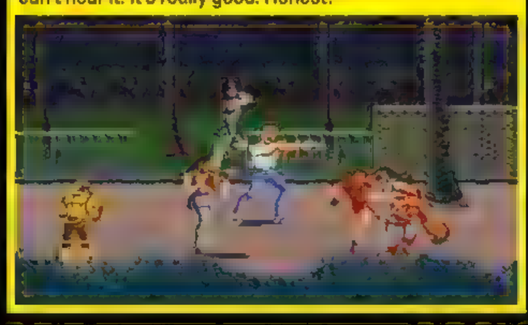
And then there were the bosses, a weird selection of mayors that ranged from claw-wielding maniacs to wrestlers that looked like the Ultimate Warrior's lost brother. Other memorable bosses were a giant fire-breathing fat man, and Mona and Lisa, two female adversaries who were effectively more powerful palette swaps of Blaze Fielding. Seimiya found himself working on both the enemies and the bosses, a task he found quite rewarding. "The design team would give me a request with the background story of the character, dot size, and reference materials for actions," he recalls. "I created the characters based on those kind of materials. It was challenging to come up with how to animate characters with a limited number of dot images."

While we were discussing the various bosses of the game an interesting piece of information came up. While Seimiya was reluctant to share his favourite creation with us, he did reveal the following about the rather unimpressive pair of bosses found on level 5. "I do not remember all the details, but there was a special boss for stage 5 instead of Mona and Lisa," he recalls. Maybe one day

» There are a variety of weapons in the game. Use them wisely as they have limited uses.



» The music on this stage is incredible. It's a pity you can't hear it. It's really good. Honest!



BOSS RUSH

The mayors of Streets Of Rage and how to defeat them

ANTONIO

■ Boss number one is pretty straightforward. Dodge the arc of his giant boomerang and move in for a flurry of punches of throws. Just be wary of his powerful kick that has quite an impressive reach.

DIFFICULTY

SOUTHERN

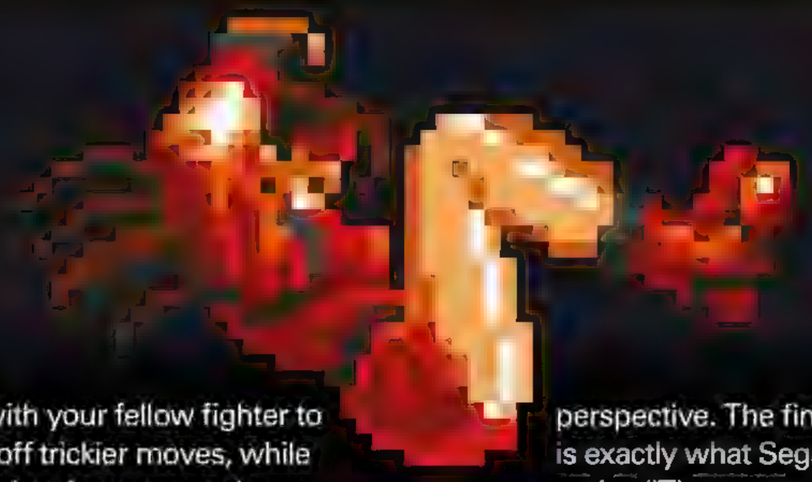
■ We hate this guy. His claws take huge amounts of energy off you and he's fast. Your best bet is to try and sneak up to him and deliver groin kicks. Don't jump near him.

DIFFICULTY

ABADEDE

■ He may look like the Ultimate Warrior, but there's nothing ultimate about this easy boss. While his punch is extremely powerful you can see easily see it coming. Simply sidestep him and unload your fury until his knees buckle.

DIFFICULTY



up with your fellow fighter to pull off trickier moves, while pressing A summoned a police car that fired a rocket that killed off most enemies. Sadly, Seimiya didn't have much involvement with the fighting mechanics, simply telling us: "I was pleased with the tag-moves which rewarded users to co-op with a friend."

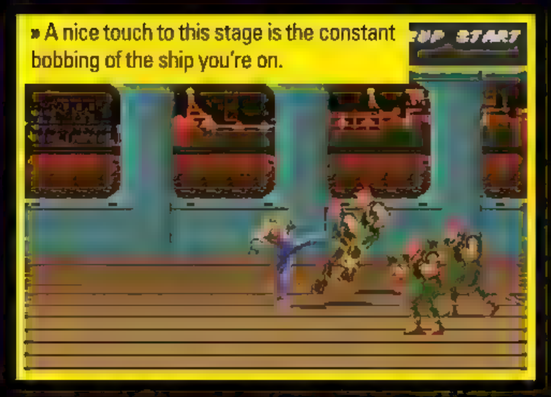
Another aspect of the game that Seimiya was a fan of was *Streets Of Rage*'s scintillating soundtrack. While many will argue that the best tunes are found in the second game, it's still impossible to play the original without whistling or tapping your foot to the techno-infused tunes, as they perfectly complement the frantic on-screen battles. "[The music] was very important, and thus we used Yuzo Koshiro for the score," admits Seimiya, "as we did for the last game." The game he's talking about is *The Revenge Of Shinobi*, a rather superb sequel that married the arcade shenanigans of the original game to Koshiro's eclectic and bombastic score. There were additional connections to *The Revenge Of Shinobi*, as *Streets Of Rage*'s director Noriyoshi Ohba had overseen *Shinobi* as well.

In fact Seimiya feels that Ohba's directorial style is what led to *Streets Of Rage*'s unusual multiple endings, one of which gives you the option of teaming up with Mr X instead of trying to defeat him, telling us: "I guess it was his style to add a bit of spice to the script." We also discovered that *Streets Of Rage* was basically complete from a gameplay perspective. The finished release is exactly what Sega planned to make. "There were lot of assets that did not end up in the final game," admits Seimiya, "but features were all built in the final game."

Streets Of Rage's release saw it receiving critical acclaim from journalists and strong sales. Its success on Sega's 16-bit console saw a cut-down version appear on the Game Gear in 1992 that lacked Adam as a playable character and a PAL-only Master System release in 1993 that dropped the co-op play. We were keen to know if Seimiya had any involvement with these inferior ports, only to be told: "No, I did not take part in those projects". The original Mega Drive version has popped up in various guises since, with one of the most impressive being M2's 3DS version, which creates a 3D playing area for the game, adding a scale of depth to proceedings.

While *Streets Of Rage* was a big success for Sega, it was the sequel, released in 1992 that really made gamers take notice of the franchise. Everything about it was bigger and better, from its incredible music compositions – again by Yuzo Koshiro – to its beefier sprites and larger range of combat moves. In fact, many still regard it as the pinnacle of the genre. Seimiya worked on the sequel as a background artist. He was also involved with 1994's *Street Of Rage 3*, infamous for its boxing kangaroo and the large amount of changes that were made between the Western and Eastern versions of the game. There was even a comic series, but again, Seimiya had nothing to do with it.

Although usurped by its superior sequel, *Streets Of Rage* remains an entertaining brawler and an important release in Sega's 16-bit battle against Nintendo. It's a pity then that, the odd update aside, Sega has done very little with the franchise since its 16-bit glory days.



» A nice touch to this stage is the constant bobbing of the ship you're on.

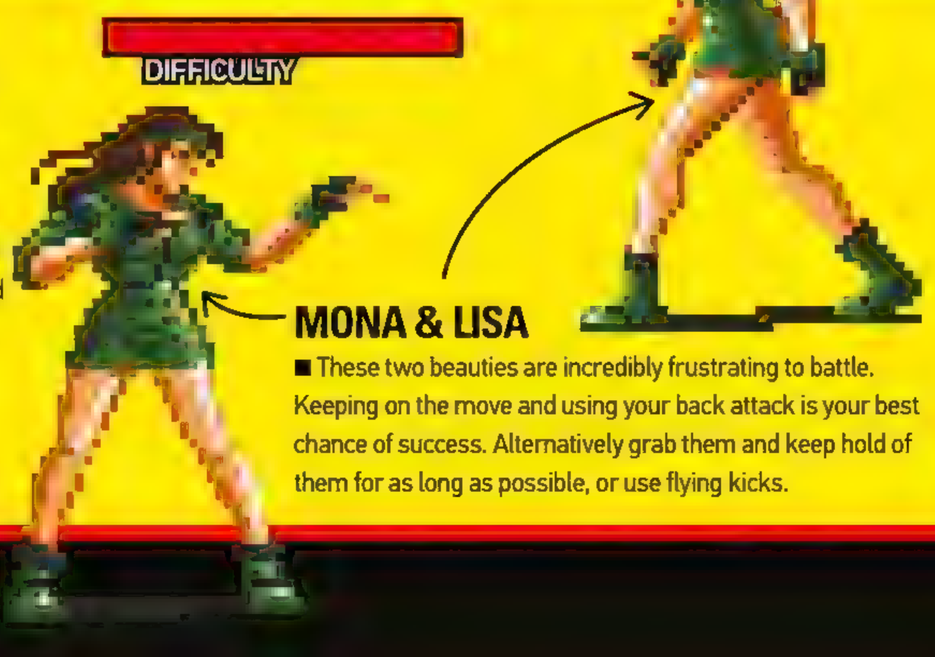
Although *Streets Of Rage*'s bosses were tough, the three main characters were more than equipped to deal with them. All three had access to a flurry of kicks and punches and were also able to pull off flying kicks and use handy back attacks. Nothing revolutionary compared to what had come before it, but the controls were tight and responsive, meaning you always felt in control of the fighting. While enemies could grab and throw you, you were far from defenceless, being able to land on your feet with a well-timed press of the jump button and even attack enemies while you were being held. You could even team

» This ending only appears if one of you agrees to join Mr X in two-player mode.

> **"Many arcade games back then were realistic, and I think it was simply a trend"**
> Atsushi Seimiya

BIG BEN

■ A really frustrating boss, mainly because of the huge gout of flame he breathes, which is difficult to avoid. Be as quick as you can, get in close and hit hard. Do not try and throw him though as he'll crash and damage you.

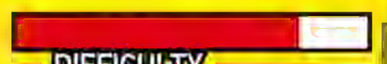


MONA & LISA

■ These two beauties are incredibly frustrating to battle. Keeping on the move and using your back attack is your best chance of success. Alternatively grab them and keep hold of them for as long as possible, or use flying kicks.

MR X

■ A suitably tough boss for the finale due to his quick rushes and the insane reach of his machine gun – that's right, he has a bloody big machine gun. Keep on him, hit hard and fast and keep an eye out for his numerous, hard-hitting minions.



Refreshing a series for a new generation is tough, especially when it's a Zelda title. Nick Thorpe speaks to Takashi Tezuka and Kensuke Tanabe about the hard work that went into this action-RPG classic...

When you look back at the history of the series, *The Legend Of Zelda* occupies a funny space in Nintendo's planning processes. If a *Zelda* game arrives in time for a console launch, it's because the game was heavily delayed on the previous generation of hardware. Yet *Zelda* is never overlooked when a new Nintendo console is being planned – in fact, it's often one of the very first things considered for a new machine. Our first look at *The Legend Of Zelda: The Wind Waker* came before the GameCube had hit the shelves, but the game launched over a year into the life of the machine. A demo of what would eventually become *The Legend Of Zelda: The Ocarina Of Time* was shown to attendees of Nintendo's Shoshinkai 1995 expo, but the game didn't materialise until 1998. But the game that started this tradition was *The Legend Of Zelda: A Link To The Past*, the game that marked Link's move off of 8-bit platforms.

In planning the launch of the 16-bit SNES platform, Nintendo identified two basic software needs: new properties that could demonstrate the power of the new hardware, and more of what had made the NES successful. For the former category, Nintendo chose racing and flight games that would be impossible to achieve on rival consoles, and delivered a one-two punch of *F-Zero* and *Pilotwings* in November and December 1990. For the latter, Nintendo chose to immediately develop follow-ups to its most popular NES properties – the *Super Mario Bros.* and *The Legend Of Zelda* series.

HYRULE'S HEROES

The A Link To The Past developers we spoke to

TAKASHI TEZUKA

Director

KENSUKE TANABE

Sound Artist

However, creating a new Zelda was a bit more difficult than creating another Mario game – Mario games were all very similar but The *Legend Of Zelda* and *Zelda II: Link's Adventure* were very different games. This left the Nintendo EAD team with some big decisions to make regarding its approach to the new game. "In *Zelda II: The Adventure Of Link*, we wanted to include sword combat with a variety of different moves into the gameplay, and so decided the project would use a side-scrolling view that made use of our experience from *Super Mario* games," explains Takashi Tezuka, a veteran Nintendo developer who served as director for both *The Legend Of Zelda* and *The Legend Of Zelda: A Link To The Past*. "We made two *Zelda* games for the NES, both making the most of that hardware. But then with the next *Zelda* for the SNES, we were able to add even more new things to the gameplay."

The final decision on which structure to use was driven by the concept of the game, according to Tezuka. "When we were starting the project, we experimented to see if it was possible to include a multi-world structure into the game. Our plan was that events in the hub world would have an effect on the other, overlapping worlds," he explains. "In the end, we decided it would be best for us, the developers, as well as for players to have this as two worlds; one light, one dark. We felt the best way to represent this overlap of light and dark and to represent the changes between them, was to use the same slanted top-down view used in the original *The Legend Of Zelda* game."

It's rare for a company to discard the major changes made to a sequel, but it would prove to be a wise decision. Quite apart from the fact that *Zelda II* has become known as one of the weaker games in the series as time has passed, there was still a lot that Nintendo could change and improve in going back to the old top-down format. Even very basic things were overhauled, such as the way Link moved around the environment – for the first time, he was able to move diagonally as well as in the four cardinal directions. Rather than using a simple thrust, Link would actually swing his sword in a more realistic arc.

According to a 1992 Famitsu interview with Shigeru Miyamoto, this combination of new features actually gave way to another new feature. With the addition of

LINK'S ARSENAL

BOW & ARROW
■ A good range [illegible] although you have a limited su[illegible]

BOOMERANG
■ [illegible]

HOOKSHOT
■ This item can pull Link across dangerous gaps, or grab baddies.

BOMB
■ Does what it says on the tin – place it and run away

ETHER MEDALLION
■ [illegible]

QUAKE MEDALLION
■ A mighty tremor reduces grounded enemies to either nothing or slime.

LAMP
■ [illegible]

MAGIC HAMMER
■ This versatile tool and weapon is useful against frozen enemies

CANE OF SOMARIA
■ This is used to instantly c[illegible] – good for weights and shielding.

CANE OF BYRNA
■ This awesome item shields Link and hurts enemies in the process!

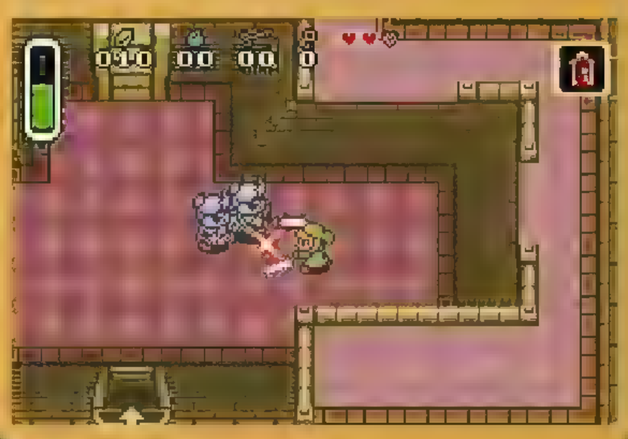
MAGIC CAPE
■ [illegible]able item makes Link [illegible]

MAGIC MIRROR
■ An important item, as it's Link's path between the Light and Dark Worlds

LINK SHRINKS

The only port of Link's 16-bit adventure received some major upgrades...

[illegible]



diagonal movement, the Nintendo EAD team had made the logical assumption that Link should be able to attack diagonally, too. However, in practice it actually made the controls feel somewhat worse, and Link was once again saddled with the ability to move in eight directions but face only four. Undeterred, the team found a way to add a multi-directional attack in the form of a spin attack, activated by holding the sword button down for a couple of seconds. This elegant solution would go on to feature in many subsequent Zelda games and become a staple of the series.

Other changes to the use of weaponry and items were considered too, according to Tezuka. "At the start of development, we wanted players to be able to freely choose which weapons to hold, not just the sword and shield," explains the game director. "We also thought about having these weapons combine, say for example, having the Bow & Arrows set to the A Button and a Bomb to B Button so that when you use them together (i.e. press both the buttons), Link would shoot an arrow with a bomb attached." This would have revolutionised *Zelda*'s combat system, but ultimately didn't come to pass – however, it might sound familiar to fans of the series. "In the end we didn't use this in *A Link To The Past*, as Shigeru Miyamoto requested that Link always have the sword equipped," Tezuka recalls. "We were able to implement this system in the next title, *Link's Awakening*, though."

Working with the SNES also opened up a world of new possibilities for the Nintendo development team. "The new hardware allowed us to do things we hadn't been able to until that point. I'd only been drawing four-colour pixel images up until then, so even simply just increasing the number of colours available to use to 16 or 256 colours, as well as being able to use high-quality sounds, was really exciting for me," explains Tezuka. "Figuring out how best to effectively reflect the features of the hardware into a game is always a challenge that Nintendo's game designers face, and not limited to this game," notes Kensuke Tanabe, the scriptwriter for *A Link To The Past*. "For me, who'd studied visuals at university, being able to use two 'animation cells' and having the possibility to scroll them separately was a huge deal."

The technique that Tanabe refers to above is that of using multiple background layers. On the NES, it was only possible to draw a single layer of background graphics and a single layer of sprite graphics. With the SNES, developers had the luxury of multiple background layers. For example, in *A Link To The Past*, one layer is used to display the stage layout and a second layer is reserved for special effects. A third layer is used to display the HUD, which never moves. "Using it allowed us to create the raining scene at the very start of the adventure, as well as show sunlight filtering down through the leaves in the forest," Tanabe recalls of the special effects layer. "It's the effect of the sunlight in the forest that I'm particularly fond of. I'm also really pleased that we were able to display which floor a player is on by using two 'animation cells'. This was actually a

The memorable rainy intro to *A Link To The Past* was only possible with the power of the SNES.

MAGIC POWDER
■ This can transform enemies into weak or even harmful creatures!

FIRE ROD
■ Use this to send a burning blast in the direction of your foes.

ICE ROD
■ Freeze the enemy with this vital piece of magical weaponry.

BOMBOS MEDALLION
■ Hit everything on screen with fire magic, at great magical cost

FLUTE
■ This ocarina-shaped object can summon a bird for fast travel.

BUG-CATCHING NET
■ If you want to put a bee or fairy in a bottle, you'll need this.

BOOK OF MUDORA
■ This allows Link to read Ancient Hylian, often used in magical places

BOTTLE
■ These handy containers can hold potions, fairies and even bees

PEGASUS SHOES
■ Footwear that allows Link to perform a speedy dash attack.

POWER GLOVE
■ No dodgy NES peripherals here – this lets Link lift some heavy objects.

FLIPPERS
■ Worth the 500 Rupees the Zora charges, as you'll be able to swim!

MOON PEARL
■ Without it, Link would lose his human form in the Dark World.

“Shigeru Miyamoto requested that Link always have the sword equipped”
Takashi Tezuka

BOSS RUSH

While myself has stood in Link's way, these bosses are easily the hardest (bar)

ARMOS KNIGHTS

■ These six-armed warriors are frightening no matter when they're placed in the world. When they're placed at the very beginning of the game, they're downright terrifying. Their only weakness is their ability to break their armor.

LANMOLAS

■ It's hard to predict the [illegible] bosses [illegible] Twilight Princess [illegible]

MOLDORM

■ This nasty piece of work likes [illegible]

AGAHNIM

■ The wizard behind Zelda's [illegible]

HELMASAUR KING

■ This fiery-tempered individual [illegible]

ARRGHUS

■ This floating [illegible] sky-like [illegible] Pull away the shield [illegible]

> **"Our main aim was to show the birth of a hero in a scene fitting of a Zelda [game]"**
> Takashi Tezuka

added treats rather than annoying extras." A review in *Mean Machines* scored the game 95% and declared it "simply the greatest exploration/adventure game available for a console," while *Super Play Gold*'s 93% review noted that "you're unlikely to want to switch the game off." The game sold a massive 4.61 million copies on the SNES, and ultimately spawned both a successful rerelease on the Game Boy Advance as well as a successor for the Nintendo 3DS, *The Legend Of Zelda: A Link Between Worlds*.

Despite the excellent quality of *The Legend Of Zelda: A Link To The Past*, it would ultimately prove to be the end of the line for the *Zelda* series as players had known it, as the series was about to undergo a radical change. The next mainline sequel was *The Legend Of Zelda: The Ocarina Of Time*, which transformed the series with open 3D spaces and more. While smaller 2D *Zelda* games would continue to appear on the Game Boy platforms, including the excellent *Link's Awakening*, *Oracle Of Ages And Oracle Of Seasons* and *The Minish Cap*, there was never another 2D Zelda game to get the big budget treatment that *A Link To The Past* received.

But that's not to say that *A Link To The Past* hasn't had a lasting influence, not by a long shot. Elements from the game including the spin attack, the Hookshot and the Master Sword have become series regulars, and that dual-world concept has been revisited very frequently – just look at young Link and adult Link in *Ocarina Of Time*, or human Link and wolf Link in *Twilight Princess*. The third *Zelda* game is as tightly woven into the legacy of the series as any of the other major entries.

Ultimately, *The Legend Of Zelda: A Link To The Past* is one of those extremely rare games that not only achieved critical and commercial success at the time of its release, but has stood the test of time and continues to attract new fans today. How does the team feel about this sustained success? "We're truly thankful, and consider it a great privilege," Tezuka says, but he's careful not to rest on his laurels. "At the same time, it also drives us to create new games that will surpass this acclaim."

I AM ERROR...

The story behind one of gaming's most infamous secrets...

Back in the early Nineties, we can't imagine many American kids turning down the chance to get their name featured in a NES game. With that in mind, a contest ran in *Nintendo Power* during 1990, allowing the winner to win us that prize. The eventual winner was a chap named Chris Houlihan, whose name was eventually incorporated into a NES game, but a SNES game – *The Legend Of Zelda: A Link To The Past*.

Of course, there's a catch. There's always a catch.

Nintendo ran a competition to [illegible]

[illegible] filled room. Take a look for yourself. Plus, if you played the game in any language other than English, Chris Houlihan [illegible]

» Soldiers take pig form in the Dark World, and you won't see any other humans.

» Climbing the mountain to Hera Tower is dangerous, thanks to a constant rain of rocks.

MOTHULA

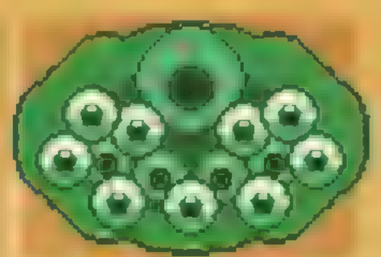
■ [illegible]

BLIND THE THIEF

■ [illegible]

KHOLDSTARE

■ [illegible]'s a frosty atmosphere [illegible]s boss fight, and Link will [illegible]de around easily. Melt its icy shield with a fire attack (the Bombos Medallion works well), before finishing it with the sword or Fire Rod.



VITREOUS

■ The slime that this gaggle of eyeballs lives in is both disgusting and deadly to touch! Slice down each smaller eyeball as it launches itself at you, before taking out the biggest one from afar with the bow.

TRINEXX

■ Three heads are deadlier than one, as far as this boss is concerned. Stun the red head with the Ice Rod and the blue head with the Fire Rod before attacking, then finish Trinexx off by hitting the glowing orb.

GANON

■ [illegible]

[illegible]oot him with a

THE WORLD

Here's a look at the key locations Link will visit as he becomes a hero in the Light World...

LOST WOODS

■ This is where you'll find the Master Sword, truly awakening Link as a hero. But you'll need three pendants to claim it.

HERA TOWER

■ Atop the mountain, this fortress guards the final pendant you'll need to obtain the Master Sword. You'll need the Moon Pearl located here, too.

HYRULE CASTLE

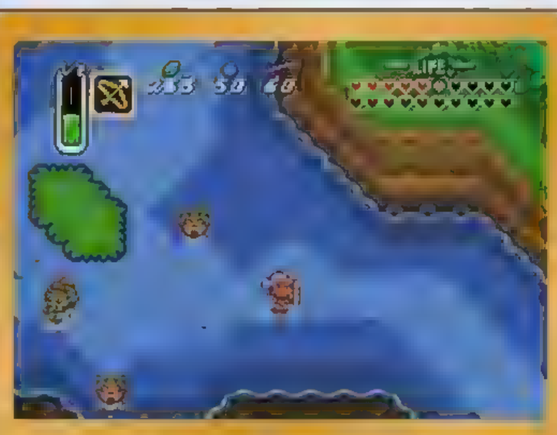
■ This is where Princess Zelda is being held at the beginning of the game, and where you'll later fight Agahnim. The boomerang can be found here, too.

KAKARIKO VILLAGE

■ Most of the residents of the town here are terrified of Link, and some will summon guards to attack him. You can grab a bug-catching net here.

DESERT PALACE

■ The power glove here is key to lifting heavy rocks, which you'll need to do to claim the second pendant.



ZORA'S DOMAIN

■ Make sure to bring some cash with you here, as you'll be able to pick up some useful flippers that allow Link to swim

EASTERN PALACE

■ You can grab the all-important bow here, as well as collecting your first pendant. You'll have to

SAGE'S HIDEOUT

s taking refuge from the forces of evil here, and is holding onto the Pegasus Boots for you.

LINK'S HOUSE

■ This is where you'll start your quest, and where you'll often resume it. You can pick up the lantern here at the very start of the game, too

LAKE HYLIA SECRET CAVE

■ This remote cave holds a particularly useful tem, the Ice Rod – it's worth the big detour to claim it as soon as possible.

SENSIBLE SOCCER

As one of the most fondly remembered Amiga titles, Sensible Soccer made the beautiful game shine on home computers with precise, flowing gameplay, iconic aesthetics and a real sense of fun. The game's creator, Jon Hare, chats to Craig Grannell about his landmark title, and no one even says, 'It's a funny old game'...

» *Sensi*'s grand daddy, *Tehkan World Cup*: responsible for both joy (it's fun!) and pain (because of the notorious trackball control method).

Sensible Software's infatuation with digital soccer can be traced back a few years before its breakthrough Amiga title *Sensible Soccer* ('*Sensi*' hereafter) arrived. In the Eighties, Jon Hare and Chris Yates became addicted to trackball-operated *Tehkan World Cup* ("A game that *hurt* if you wore a ring on your hand," according to Jon), which directly influenced C64 hit *Microprose Soccer*, lauded at the time as "the best football game ever produced" by *C&VG*.

Fast-forward a few years and the Sensible Software team was hard at work on *Mega Lo Mania*, squeezing in umpteen games of *Kick Off 2* during coffee breaks. "We were getting irritated with some bugs in the game, and there were problems with it we didn't like, although that was only because we'd played it a hell of a lot," begins Jon. "While doing a lot of late night sessions on *Mega Lo Mania*, we started thinking about creating a football game. The very first *Sensible Soccer* men were the *Mega Lo Mania* guys dressed in football kits. By the time *Mega Lo Mania* was done, I'd mocked up a pitch, and we had a perspective and look to go on. Chris Chapman then knocked up some controls and we got going with it."

> **"While we were doing a lot of late night sessions on Mega Lo Mania, we started thinking about doing a football game. The very first Sensible Soccer men were the Mega Lo Mania guys dressed in football kits"**

Jon admits that some aspects of *Sensi* were most certainly inspired by other games of the time, "There's the overhead view from *Mega Lo Mania*, and the pace of the game probably came from *Kick Off*, which is quite fast," he reveals. However, the key element of the game is how it feels to play, and this is reliant on two components: the controls and the player selection. "If you look at the controls of *Sensi*, they're pretty bloody simple," says Jon, adding that it enables gamers to get stuck in straight away. "You move a guy around with the ball, and you can pass it with a tap of the button, or hold the button down to kick it in the air. So there's some innovation with the short or long press, but your bloke basically kicks it in the direction he's facing."

Where *Sensi* really comes into its own, Jon argues, is in the way the players are selected, "That, for me, is the game's biggest innovation, and it's the most invisible part of the game." According to Jon, the game always tries to key players up to be the next player on the ball, and it reads from the direction you're pressing on the joystick which player you're drawing on. "In other words, it tries to interpret from the direction you're running which player you want to run on to the ball," clarifies Jon. "This is the most innovative and complicated part of *Sensi*, and it's the best bit, too."

» Sensible Software's forerunner to *Sensi*, *Microprose Soccer*, would be just like the Amiga game – if the players doubled their weight and couldn't be bothered to move.

» Red card? The referee's a w… (onderful person, who works hard, and has a tough time out there on the pitch – Ed).

Strangely, it's partly down to *Sensi*'s somewhat basic aesthetic that the controls work so well. "The fact that our animation is extremely simple means the player's imagination has to fill in the holes, but it enabled us to create very responsive controls; everything runs on the frame," explains Jon. For him, many subsequent titles that don't do this are problematic, "For example, *FIFA* went backwards because it was too slow, not running on the frame." Although some modern-day critics suggest that *Sensi* suffers in terms of realism because of its simple graphics (see Keeping It Real boxout, for more of Jon's thoughts on this subject), Jon argues that *Sensi* should be thought of in a more iconic fashion.

"The players in *Sensi* are like the pieces in *Monopoly*, they are icons, and they are representative of a player. But *Sensi* does have 'realism' in the areas where it matters – in terms of data." This is certainly true, *Sensi*'s attention to detail is staggering (and even more so for its immediate sequels). "There are thousands of players, all in then-accurate clubs," says Jon. "All the black guys are black, all the white guys are white, all the blonde guys are blonde and so on. That sounds basic, but no one had coloured the players properly before."

IN THE KNOW

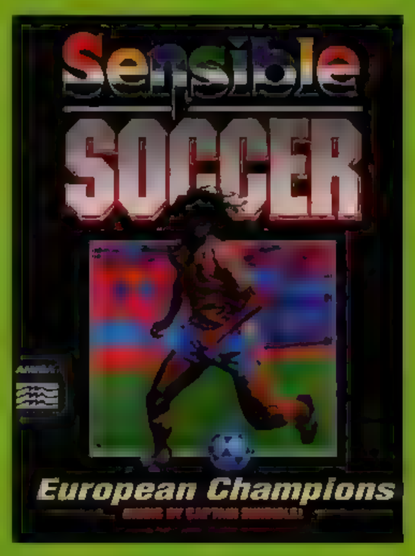
» **PUBLISHER:** RENEGADE

» **DEVELOPER:** SENSIBLE SOFTWARE

» **RELEASED:** 1992

» **FORMATS:** AMIGA (LATER CONVERTED TO ATARI ST, IBM PC, MASTER SYSTEM, MEGA DRIVE, SNES, AND OTHERS)

» **GENRE:** SPORTS



KEEPING IT REAL

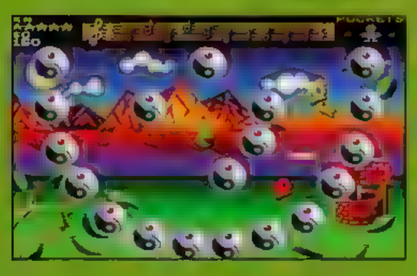
Today, games developers are hellbent on making games 'realistic', although that often amounts to 'television realism'. "People miss the point entirely with realism," says Jon Hare. "The thing to re-create is not what something looks like or sounds like, but the *feeling* – what's going through your mind at the time." For Jon, this highlights cultural differences. "It's a misnomer that realism is about visuals. This is a very American perspective – not what British software used to be about or what Japanese software has ever been about." He believes the best games involve the player in the gameplay – in the experience and the feeling. On *Sensi*, he argues that, "If someone can't lose themselves in a football game with quality graphics like *Sensi*, what that actually tells you is their imagination is impaired. I can lose myself in a game of chess, like it's a battle, and it doesn't even move." He also reckons that if you ask a sportsman what's in their mind when playing, or how much of their 'reality' is visual, they'd say virtually none. "It's all about control and feel. If you speak to Roger Federer about what it takes to win a tennis game, I'm sure he's not even aware of what anything's looking like."

DEVELOPER HIGHLIGHTS

WIZBALL
SYSTEMS: C64 (CONVERTED TO AMIGA, AMSTRAD CPC, ATARI ST, IBM PC, ZX SPECTRUM)
YEAR: 1987

WIZKID (PICTURED)
SYSTEMS: ATARI ST, AMIGA
YEAR: 1992

CANNON FODDER
SYSTEMS: AMIGA (CONVERTED TO 3DO, ATARI ST, CD32, GAME BOY COLOR, IBM PC, JAGUAR, MEGA DRIVE, SNES, AND OTHERS)
YEAR: 1993



Furthermore, Jon adds that the players all play in the correct positions, bringing to the game a kind of 'fan' level of detail.

Sensi's detail resulted in the game identifying with what football fans wanted in a game, but the title's playability meant that even those less interested in the beautiful game were still roped in. Jon was clearly in the football-fan camp, and for him the game almost became the culmination of a lifetime's interest in football. "When I was a young child, I had some plastic nets I'd got from somewhere, and I'd make football matches from any toys that came to hand," he says. "As a kid, I was also a big fan of *Subbuteo*, and I've always been interested in international things like flags, countries, places and things like that." Others at Sensible Software shared Jon's passion, and this is perhaps what sets *Sensi* apart from its contemporaries and most football games created before or since. "Underlying the game is a huge football culture, and this stems from an understanding of being a lifelong football fan," says Jon. Usefully, publisher Renegade was on the same wavelength. "Renegade was supportive, didn't pressure us too much, and gave us the creative freedom to make the product," says Jon. Because of this, the team continued sculpting the game to perfection, until the last minute. "Every area of the game was tweaked – the speed players ran, the circle in which the ball sticks to their feet, the angle you assist them on to the ball, the length and outcome of tackles, yellow and red cards, goalkeepers – and observed interacting with all of the other elements," explains Jon. "It's a very overused phrase, but this was a very iterative process. Making a good game is about going through controls again and again." Back in the early-Nineties, Jon notes that there were no milestones, meaning it was possible to focus entirely on what was needed for the game. "It's a much better way of working," says Jon. "And the end result goes to show that when you allow a good, creative team freedom to work, without having to worry about stuff, really good work can be produced. When you constantly have to check 'can we do this?'... well, it's hard to communicate just how much making people constantly check themselves destroys [their] creativity."

» Little did the goalie know: by holding on to the helium-filled ball, he'd soon be floating over Norway.

When *Sensi* was released, acclaim was universal. *Amiga Power*'s Stuart Campbell almost ran out of superlatives, concluding Sensi was, "without the merest inkling of a suggestion of a shadow of a doubt, the best football game ever." Elsewhere, an *Amiga Format* 'Gold' and a *CU* 'Screenstar' were just two of the many gongs awarded to the game. For Jon, the praise was welcome, but expected. "It was amazing, but *Sensible Soccer* is the only game I've worked on that I knew was brilliant. It just had 'it'." Jon believes that the game had some 'magic', something that he and developer Chris Chapman strove not to lose during subsequent work on the series. "There were certain areas of the code we wouldn't allow ourselves to ever touch, such as the core control system," he says. "If I asked Chris to change something, he'd say, 'I don't really know how we got to the point where this works, and I don't want to break it apart and re-engineer it,' and so we'd just leave it. Sometimes, the best part of creative work can be like magic, and that's true of games. Something just works and it's perfect, but it's not premeditated or planned – it just happens."

Although the basic engine didn't initially change that much, the scope of the game grew. New releases included up-to-date teams and statistics, and when *Sensible*

» In the era 'BAL' (Before Annoying Lawyers), football games could use real names for free, without the fear of being beaten to death by a lawsuit.

"Sometimes, the best part of creative work can be like magic, and that's true of games. Something just works and it's just perfect, but it's not premeditated or planned – it just happens"

» Tarquin waited patiently for the corner kick, unaware that a huge number 3 was hovering menacingly above his head.

» The amazed crowd looked on as two giant footballers stared each other down. Clearly, this would be a match to remember.

World Of Soccer arrived, it brought with it management, player trading and more. "I still maintain that *SWOS* is the best player-manager game on the market," says Jon. "I think we wanted to add a 'world' of football to the original *Sensi*, as well, but we just didn't have time. But for *SWOS*, we included every league we could find – 24,000 players, 1,500 teams. We had two full-time guys just researching data for us!"

Jon reckons *SWOS* remains the most global game that he's ever played. "I can't think of anything else that so comprehensively acknowledges the rest of the world's existence." And for Jon, this is perhaps the main thing that he is most proud of. "*Sensi* has become an international game, similar to the *Subbuteo* I played as a child," he proudly explains. "The fact we bothered to include 80-odd international leagues brought us an immense amount of loyalty."

More recent *Sensi* efforts have fared less well, however. "The problem with 3D versions of *Sensi*, such as *Sensible Soccer 98*, is that it's a very, very fast game, and the animation can't keep up in 3D," says Jon. "As for the recent Codemasters version... well, if there's a problem with it, it's that it wasn't finished properly before it came out. It's not a bad game, but *Sensible Soccer* is almost perfect for what it does, and the only way you get that is by putting the game through the mill at the end, and I don't think we pushed it as far as we could." Still, even such disappointments haven't diminished the appeal of the original, and during the interview, Jon expressed hope for the Xbox Live Arcade version of the game. "The last time I saw it, it looked very good. I'm excited about what this version could do, because it's more traditional *Sensi*."

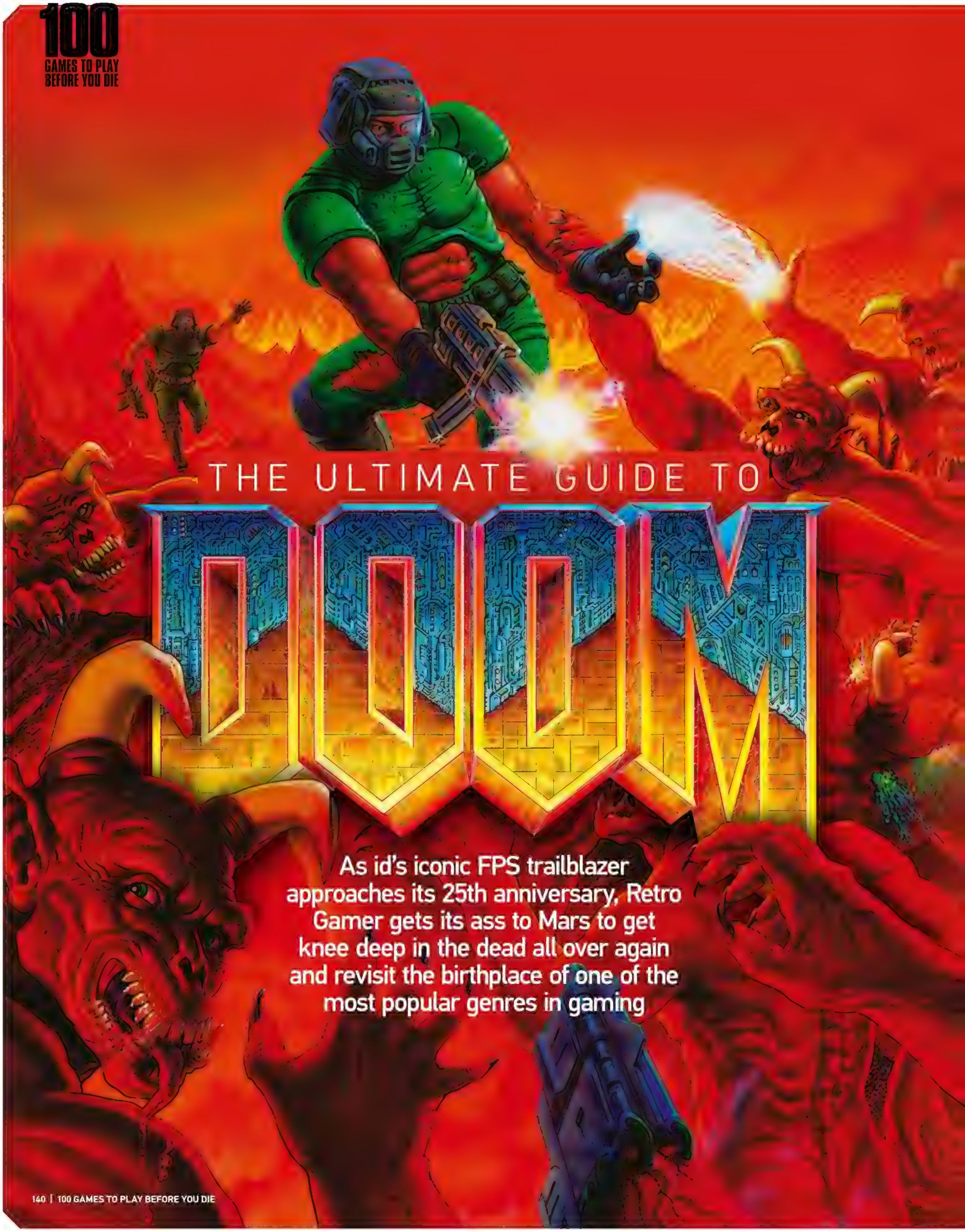
» "No pressure!" yelled the manager, as Gerald prepared to take the penalty, trying to ignore the giant scoreboard showing his team's slender lead.

So, what is it about *Sensi* that keeps people playing it, and has fans clamouring for authentic remakes over a decade after the release of the Amiga original? "It stands up on a lot of fronts," considers Jon, who is now working on a brand new football game called *Sociable Soccer*. "First, it's still the only place some people will see their country mentioned in any game – certainly as an acknowledged part of the world, with living, breathing football teams and life there, equal to us and every other country. Second, the gameplay holds up: it's still fun – maybe a bit basic... it certainly looks basic – but it invites people in to pick it up quickly and get involved. Third, it was very successful: it was number one in the charts for a long time, and every year that it came back, it topped the charts." Jon also reckons the game stands for certain values. "Not just in gaming, I think it goes beyond gaming. I think *Sensi* stands for a certain era in entertainment when things weren't quite so in-your-face, market-led and stuffed down your throat until you couldn't avoid them." For Jon, and many others, *Sensi* is therefore something of a 'game for the people'. "This all underlines why people still want the game," says Jon. "So many people have told me they nearly blew their degree playing *Sensi*, or that they spent their whole teenage life playing the game. They felt like *Sensi* belonged to them, and that it was a part of them," he concludes.

» Brian the goalie's team-mates wondered if his heart was still in it. This was the tenth match in a row that he'd spent lying face down in the mud.

A SENSIBLE ACCOLADE

In March 2007, Henry Lowood, curator of the History of Science and Technology Collections at Stanford University, with academic researcher Matteo Bittanti, games journalist Christopher Grant and game designers Steve Meretzky and Warren Spector, formulated the ten most important videogames of all time, presenting the list at the Game Developers Conference. *Sensible World Of Soccer* made the list, alongside such gaming giants as *Tetris*, *Warcraft*, *Doom* and *Civilization*. "That is the biggest accolade I think any of our games has ever received, and it's also the biggest accolade I've ever had professionally," says Jon. "I mean, this is about the ten most important games *of all time*. Also, *Sensi's* from the only European developer on the list – aside, perhaps, from *Tetris*, which is Russian – and it's the only sports title *and* the most modern game there." Certainly, it makes the *CU* Screenstar seem somewhat insignificant.



THE ULTIMATE GUIDE TO DOOM

As id's iconic FPS trailblazer approaches its 25th anniversary, Retro Gamer gets its ass to Mars to get knee deep in the dead all over again and revisit the birthplace of one of the most popular genres in gaming

SHOOT FIRST, ASK QUESTIONS LATER

We discuss the origins, evolution and impact of Doom with designer John Romero

While it'd be disingenuous to say that *Doom* was one of the earliest pathfinders in the field of first-person perspective gaming, pretending that it wasn't largely responsible for popularising the model and guiding it into the mainstream would be just as misleading, if not more so. As is well documented, the origins of first-person gaming can be traced way back to the early Seventies, with *Maze War* and *Spasim* two commonly cited early examples before cockpit view arcade release like *Battlezone* stepped up the immersion another few levels.

Fast forward to the early Nineties and id was already hard at work on the tech that would one day lead to its hellishly influential shooter. 1991 saw id release *Catacomb 3D*, the true progenitor of the FPS genre. It had 3D mazes to explore, enemies to blast from the character's viewpoint, and you could even see 'your own' hands while attacking with the various spells available. id was onto something special, and the following year made the logical leap to refine the format further and throw firearms into the mix with *Wolfenstein 3D* – the most important stepping stone on its way to eventually defining the genre forever with *Doom*. *Wolfenstein* built on the same ray tracing tech used in *Catacomb* (whereby the game would only render what the player can see rather than everything around them in 3D space, thus greatly improving performance) and featured more advanced level design and enemy encounters, with the game shocking many due the violent acts seen to be committed directly by the player from their own viewpoint. But those precious souls hadn't seen anything yet.

» Each weapon, except the pistol, is great fun to use – delivering a rocket into a hellspawn's face is particularly satisfying.

How much did *Doom* change from initial plan to final product? Were there any notable features that you were unable to implement?

Doom changed a lot during development because we were creating a new technology with new gameplay. We had an initial idea of what we wanted to make, but had no idea what it would look like. Development was a process of new things happening every day. The feature we didn't implement was having one large seamless world that streamed in. That was a bit too much for DOS back in those days.

What kinds of technical challenges did you face with the hardware of the time?

The technical challenges were visualising a world no one had seen before with light levels, heights and a fully textured environment all at high speed. Additionally, the environment was a challenge because no game looked like *Doom*. There were no examples available, so we had to invent the abstract level design style to create exciting places for the player to inhabit. Doing all of this at high speed required 80x86 assembly language as well as more memory (over 640k) which required a DOS Extender, a new technology at the time.

What is your fondest (or indeed least fond) memory of working on the game?

Creating levels, coming up with new ideas for things I wanted in my levels, then coding those into the engine, then putting them in the editor for me and Sandy (Petersen) to use; playing Sandy's levels for the first time and experiencing what others would at launch; getting deathmatch working and seeing what a world-changer it would be.

At what point in the project did allowing modding and customisation via WADs become a factor? Were you surprised by the immense popularity of this functionality?

Allowing modding was designed into the game on day one. We knew it would be popular because people did very difficult things to mod our previous game, *Wolfenstein 3D*. So, we made it easy for them to mod *Doom*.

How heavily involved were you and the team with the various ports of the game? Were there any in particular that impressed or disappointed you?

We did the entire Atari Jaguar port ourselves. We consulted with Sega on the 32X port. We were surprised when the SNES port showed up in the mail – we didn't think the SNES could do that, but then Sculptured Software did it on their own. Very impressive!

What was your reaction to seeing so many subsequent FPS releases described as '*Doom* clones'?

I was really happy to see other shooters back then as there were just *Wolfenstein* clones, and I wanted better games. Some of my favourite *Doom* clones were *Heretic*, *Hexen*, *Dark Forces*, *Blood*, *Duke Nukem*, and *Outlaws*.

How important do you feel the shareware release model was to the success of the game?

The shareware model was incredibly important for spreading *Doom* everywhere. We even encouraged retail sellers to put the game on disks and sell them in computer stores, which they did. Back then, you could go into a store and see about ten different boxes with shareware *Doom* inside.

Finally, what do you think the modern FPS scene would look like had it not been for the huge influence of *Doom* on the games that followed?

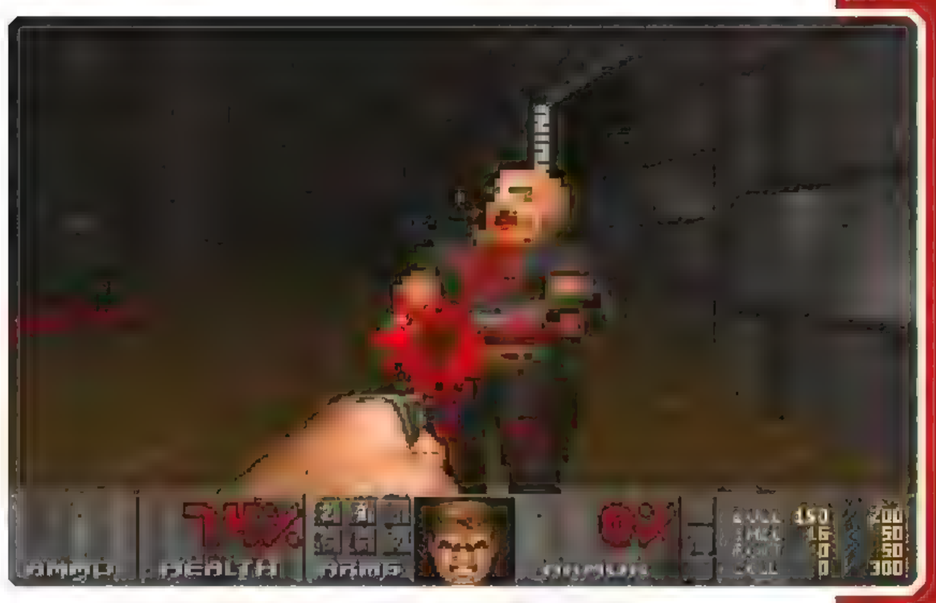
They would most likely have started out slowly with 3D tech that taxed your CPU, like *Ultima Underworld*. The first wave of tech would have been improvements on *Wolfenstein 3D*, adding slopes and lighting. At some point, someone would use *Descent*'s engine and have your player running around shooting. Just a prediction.

The summary at the end of each level shows how well you've explored the area.

The lessons learned from *Wolfenstein* and those other earlier project continued to pay off as id worked on a new engine that could offer changes in vertical height in levels, full texture mapping to surfaces, dynamic moving objects, variable lighting and much more besides. After much toing and froing over the direction the game should take, John Carmack's vision of a simple action game (rather than the more elaborate and even more ambitious ideas set out by others) won out and the game soon blasted onto the scene with a title punchy enough to make everyone sit up and take notice, and the technical chops to back up its swagger. *Doom* was born.

Those technical engine changes made *Doom* instantly feel like a generational leap over the likes of *Wolfenstein* and other early first-person titles – this was a fully immersive game world painted in glorious gunmetal and striking Martian reds from corner to corner, from ceiling to floor. A shredding metal soundtrack, worlds away from the innocuous MIDI bleeps and bloops of *Wolfenstein*, hammered home the intensity of the game, of racing around destroying demons with heavy weaponry against grotesque and glorious backdrops that could easily pass for heavy metal album sleeves. Not only that, but the world itself felt more alive and more real than anything similar that had come before, with changes in escalation, denser enemy populations (and interactions between them) and even changes in lighting from area to area.

The impact of that last feature can't be overstated, as *Doom*'s use of lighting to build atmosphere and tension in key areas was groundbreaking. Flickering neons in dark corners create a sense of foreboding and dread never before seen in a videogame, and flipping



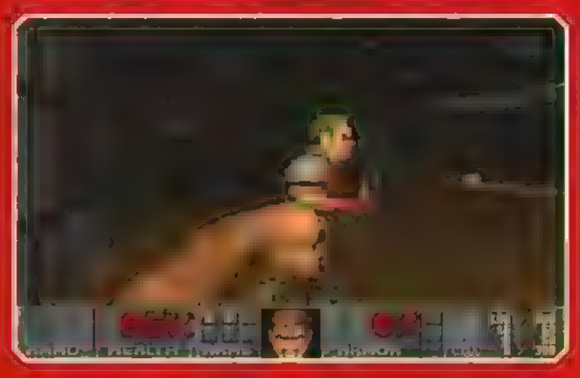
» It takes some serious guts – or a lack of ammunition – to make you want to punch an enemy in the face in *Doom*.

a switch only to be plunged into darkness then slowly turning around as you realise you're probably not alone in the room speaks volumes of *Doom*'s pioneering work in the field of interactive horror. The team's *Alien* influence might as well burst right out of the games chest during intense moments such as these.

Fortunately, id wasn't shy in letting players loose with the toys they'd need to fight back against the creatures that lurk in the dark. *Doom*'s sci-fi setting gave it creative license to expand on *Wolfenstein*'s arsenal, with futuristic weapons like the room-clearing BFG9000 at the one end of both the tech spectrum and weapon bar, and the visceral flesh-tearing chainsaw representing the game's brutal and primal horror roots at the opposite end. Aside from the starting pistol (which is soon obsoleted by the Chaingun anyway, as it uses the same ammo), every weapon is satisfying to use in its own way. Even the punch attack gets a chance to shine when you grab a Berserk power-up, holstering your firearm as red mist clouds your vision and superpowering your left hook to let you drop Hell's finest in just a couple of blows.

RIP AND TEAR

Essential armaments for dealing with unwanted demonic plagues

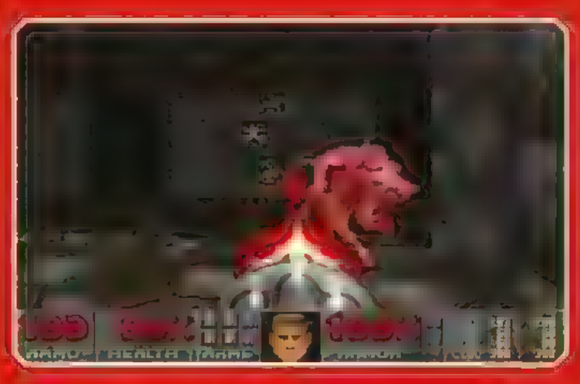


FISTS

Firearms are typically the preferred tool for engaging demons. Should your ammo reserves fail you, you could always try smacking them around a bit. But yeah, good luck with that...

SHOTGUN

Yeah! Now we're talking. Arguably *Doom*'s most iconic weapon and one that doesn't stop feeling powerful until the armies of Hell start to roll out their toughest champions.



CHAINGUN

Put all of that spare pistol ammo to much better use with this bullet hose of an alternative. Trust us, it's a lot more effective than that little pea shooter you start off with.

PLASMA CANNON

Melt your foes with streams of raw energy with this magic future gun that's probably powered by science in some way. We don't really care *how* it works. We're just glad it does.

PISTOL

This basic gun might not pack much of a punch against tougher demons, but falling back on your sidearm to dispatch grunts helps save more valuable ammo for when you need it most.

CHAINSAW

Why are there chainsaws on a planet with no trees and where all the structures are built of metal and stone? Eh, who cares – rev that bad boy up and get barbaric!

ROCKET LAUNCHER

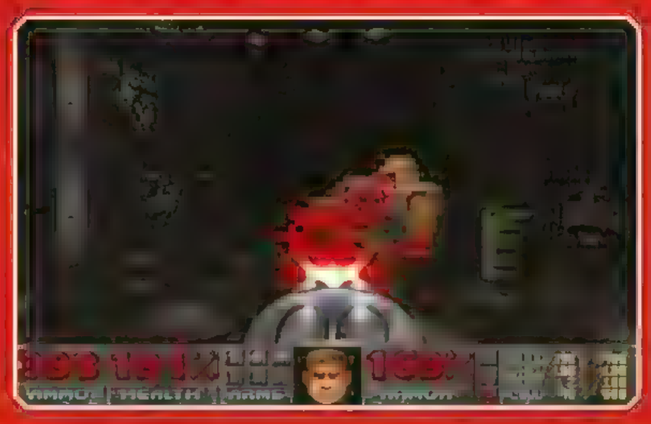
Why waste time shooting at something when you can just blow it up outright? When you want to leave no evidence (except for quite a lot of blood), explosives are where it's at.

BFG9000

Step 1: aim at room full of demons. Step 2: pull trigger. Step 3: wait. Step 4: cackle maniacally as everything around you evaporates. Step 5: repeat as necessary.

CONVERSION CAPERS

Where hell invades most home systems



MS-DOS

The original version of any game is hard to top. In the case of *Doom* – where there are decades' worth of custom mods and levels in the wild to add almost unlimited replay value – it's not just hard. It's straight-up impossible.

SEGA 32X

Between a soundtrack seemingly sampled from *Labyrinth*'s Bog Of Eternal Stench and the fact that it only features (most of) the first two episodes, this isn't the most faithful of ports, although it performs adequately.

ATARI JAGUAR

Despite being one of the few console ports at the time to offer a full-screen display, sacrifices had to be made to pull this feat off – this version lacks the killer soundtrack, only featuring limited menu and intermission music.

SNES

It's a minor miracle (read: clever SuperFX trickery) that Nintendo's 16-bit machine can even run *Doom* at all. Visual fidelity, framerate and sprite work take a hit, but it still manages to arrive *almost* feature and content complete...

PLAYSTATION

Rather than a straight port, PlayStation got an odd mixtape of most of the original levels and a bunch of others, including most of *Doom II*. It was well received and runs just fine, even adding a little of its own visual pizazz in places.

3DO

With performance that struggles even when windowed, the most dangerous enemies sadly absent, and a bizarre slowed-down rerecording of the great soundtrack, this is considered one of *Doom*'s weakest ports with good reason.

SEGA SATURN

Although based on the PlayStation version's content-rich offering, this port falls down in the same area as many others – performance. Framerate, lighting and animation are noticeably inferior you'd do well to pick up the Sony version instead.

RISC OS/ACORN ARCHIMEDES

It arrived some five years after the game launched, but this version is one of only a few that can run smoother and at a higher resolution than the original. Well, on the right hardware, at least...

GAME BOY ADVANCE

Doom making its handheld debut was a big deal at the time. It's based on the Jaguar version but heavily censored, because Nintendo. Looks great on that little screen, though, and runs pretty well all things considered, too.

XBOX 360

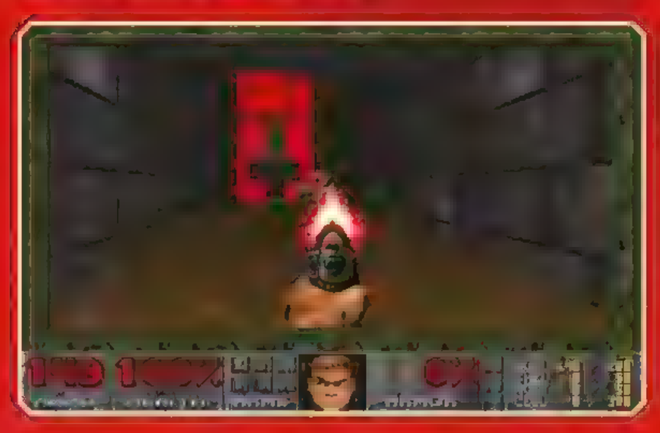
The XBLA release of *Doom* is, like its predecessor, a fantastic port, this time made even better by the addition of online multiplayer. It's also now backwardly compatible on Xbox One, should you want to rip and tear today.

IOS

If you've ever wanted to play *Doom* with touch controls, you're a buffoon. The hardware's up to the task but the floaty controls just feel all wrong. Not that it matters anyway – it's never likely to be updated to be compatible with iOS11 now.

PC-9801

The differences between western and eastern PC hardware weren't kind to *Doom*. Sound is weak, although it also struggles more in the performance department than the PC versions we got over here.



XBOX

Only available as part of the *Doom III* special edition, this port is exactly what you'd expect from newer hardware – a near-perfect copy of the PC original, albeit lacking the potential for user-made maps and mods.

PLAYSTATION 3

Available either as part of *Doom 3 BFG Edition* or via the *Doom Classic Complete* bundle on PSN, these versions are, predictably, extremely faithful to the original. Amazing what 2006 hardware can do with a 1993 game...

But of course, as your own arsenal grows more powerful, so do the minions of the darkness. *Doom* manages to do an awful lot with a relatively limited pool of enemies, each level ramping up the pace and escalating challenge as you edge closer to the exit. It has to do this by design, since death at any point flings you back to the start of the map and strips you of all your weapons and ammo. You're back to square one and suddenly, those early rooms packed with zombies and Imps that you melted with hot laser death first time around don't seem quite so easy. Later levels mitigate this a little by placing a decent weapon upgrade near the start, but it's usually something a rung or two below what you could have had at that point if you'd managed to stay in one piece – a cruel but crucial risk/reward mechanic there to make sure you respect every encounter and never let yourself get too swept up in the frenzied pace of the action.

Doom's masterful game design wasn't the only factor behinds its wild success, though – id had a few more tricks up its sleeve, both built on similar ground to techniques employed in taking *Wolfenstein 3D* to market. The shareware release of the game was the most widely influential of the two, giving away the game's entire first episode, Knee Deep In The Dead, and encouraging fans to share it with friends and colleagues and buy unlock keys to upgrade to the full game if they liked what they saw. This led to *Doom* going viral years before going viral was even a thing, with the hot new game finding its way onto machines in IT labs, universities and offices around the world. This model had worked pretty well for *Wolfenstein*, but *Doom* took it to the next level, the game such a step forward that everyone wanted a piece of it, and it was perfectly timed to catch the rise of home internet availability while still able to be shared, traded and even copied as before. For once, copying that floppy was something we were actively encouraged to do.

DOOM

» Despite being set on Mars, there's a certain element of Gothic design in *Doom*'s visual style

Id's second masterstroke was to identify the popularity of modding around *Wolfenstein* and to build *Doom* with this in mind. With more widespread availability and awareness (and again, greater ease of sharing as the internet rose in prominence) came even more love for this aspect of the game, with thousands of maps, mods, conversions and much more besides flooding online message boards and FTP sites, and otherwise exchanged between avid *Doom* fans. This embracing of user-generated content also had the knock-on effect of kickstarting the speedrunning scene as we know it, with skilled players using in-game command line tools to record and compare demos of their fastest runs. This functionality was pretty heavily buried in *Doom* but evolved in subsequent id games and culminated with *Quake*, released even further into the internet boom and spawning dedicated speedrun sites that are still running to this day.

Doom didn't just cement the framework of the solo first-person shooter – it established the entire package, with its entertaining deathmatch multiplayer mode quickly becoming a LAN hit and later evolving into one of the first examples of the genre where online play was possible. Truly one of the most important and influential games of all time, *Doom* is the keystone that supports the weight of the entire FPS genre as we know it, and an alternate timeline where it never happened – or where it did but in some completely different form where perhaps you *could* talk to the onsters – would make for fascinating viewing. It's impossible to know how different things would be without the influence of this nigh-timeless classic, but we don't really *need* to know. All we need to know is that it *did* happen, that it was (and still) truly magnificent, and that it's still happening – following a 2016 reboot that couldn't have been more in keeping with the original's tone and breakneck pace and an upcoming follow-up in *Doom Eternal*, it's wonderful to see the *Doom* legacy still at 200 per cent health a quarter of a century down the line.

» This opening sequence was one of the first shots Westwood filmed. The only reason it's in silhouette was because the developer was still learning to use chroma key techniques.

» *C&C*'s cutscenes certainly hold up well. Westwood's drive for better storytelling helped it make fantastic CG video.

COMMAND & CONQUER 101

■ Build a base, gather resources, recruit an army and destroy the enemy - that's *C&C* in a nutshell. The emphasis is on building the right units to counteract the threats that you might come up against, controlling them with a cursor to issue commands. Base building focuses on a tiered system to unlock more powerful units.

"We were just too aspirational to take Dune II and just iterate on it, we wanted to be much bigger and much bolder"

COMMAND & CONQUER

Westwood Studios was the birthplace of the modern RTS, but it wasn't until Command & Conquer that it popularised the genre. As the seminal game turns 20, Adam Barnes discovers how the franchise was born...

These days it's impossible to really think of Westwood Studios as anything other than 'that RTS developer'. While its former days were certainly spent expanding on the franchise it became known for, there were a number of years, games and genres the PC developer tackled long before it found its niche. There's no ignoring the significance *Command & Conquer* has had, however, if not for the company itself then for the entire games industry as a whole. It really is a big deal.

The game essentially created a genre and went on to defend its reign against a multitude of competitors from the likes of *Warcraft* and *Total Annihilation*, to *Age Of Empires and Stronghold*. But the story of *Command & Conquer* began many years earlier, with Westwood Studios cutting its teeth on work with SSI.

"*Command & Conquer* started with us working on a game that was going to be a swords and sorcery game," says Louis Castle, one of the co-founders of Westwood Studios. "I think it was even called *Swords And Sorcery*, and it was going to be a real-time strategy game." Louis tells us of its origins with a notable indifference, but then of course these days the genre term is a lot more familiar; back then the acronym 'real-time strategy' hadn't even been coined, let alone entered the mainstream consciousness. "We had done a few strategy games for SSI," states Louis, "and we had done this *Eye Of The Beholder* series which was a role-playing game series that was real-time as well. So we had taken these very complicated rules of a *Dungeons & Dragons* game and distilled them down into a real-time role-playing game." Louis adds that Westwood was "all about real-time at the time" and so it would aim to combine its past experience, allowing for the work on its own IP – the fantasy-themed RTS named *Swords And Sorcery* – to begin in earnestness.

The early start on its prototype would be deflected, however, as the company came to work

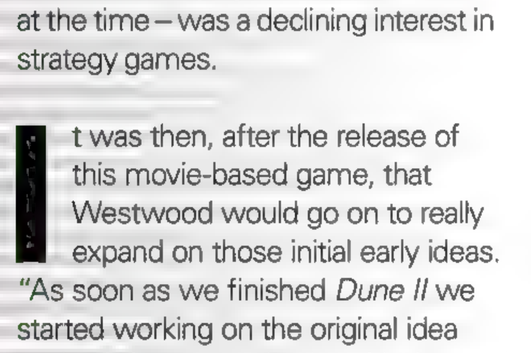
with Virgin on *The Legends Of Kyrandia*. With that concept already in place the small team at Westwood Studios would go on to arrange another deal with Virgin to work on a licensed game for the movie Dune, pitching its original Swords And Sorcery idea as potential gameplay for this new title. Westwood utilised the prototyped ideas of its fantasy RTS to create in what would be the first example of the genre as we now know it, a well-loved game called *Dune II* that was published by Virgin in 1992. For all the accolades and sales it earned, however, *Dune II* was limited in its success; it was a strategy game, after all, and based on a cult movie. Despite the game's novelty there would be no way of really leveraging its appeal for what – at the time – was a declining interest in strategy games.

» The missions didn't just ask you to destroy every enemy unit, some had to kill certain units, capture particular buildings or destroy specific structures.

"We got a call from the US military and they were like 'Who are you talking to?' and we said, 'We're just making shit up'"

Louis Castle

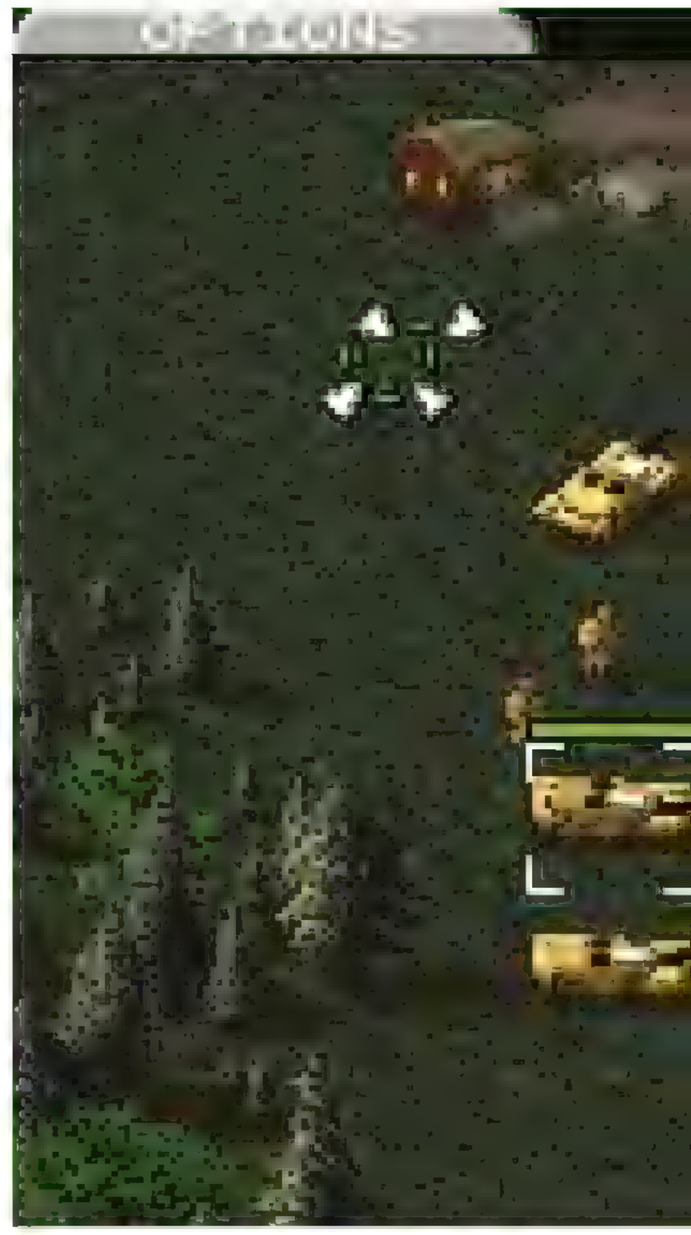
It was then, after the release of this movie-based game, that Westwood would go on to really expand on those initial early ideas. "As soon as we finished *Dune II* we started working on the original idea again and we went back to [the] swords and sorcery setting," says Louis. "We had started the concept before *Dune* but then we were steeped in fantasy, and it was really the franchise of *Dune* that pushed us into doing the sort of military sci-fi. So we went right back to fantasy again and built out a prototype and a full storyline. It was called *Swords And Sorcery* and it had goblins as the dark forces on one side and the men on the other side – which might be starting to sound very familiar but from another company." Louis' tongue-in-cheek reference, of course, is to Blizzard's *Warcraft* series, the first of which – *Orcs & Humans* – would release almost a full year before *Command & Conquer* in November 1994. With *Dune II*'s RTS innovations already setting developers alight with ideas, it was inevitable that there would be those looking to quickly capitalise on it. Louis recalls the team's disappointment with the announcement of *Warcraft*: "We were like, 'Oh man! Somebody just took *Dune II* and reskinned it as a fantasy game! We were going to do that!' And in some ways I think we were just too aspirational to take the same game and just iterate on it at that time, we wanted to be much bigger and much bolder." There was more trouble afoot, though; this wasn't just a case of a developer looking to profit from the success of another. "It's not that it was just a direct lift of an existing game that was reskinned," explains Louis, "but also there was some shady stuff going on with an employee that had left our company and gone to Blizzard and I think that having known the Blizzard guys since then I think that – though it was certainly not their intention – at some point there was more than just a little bit of copying going on. So we felt pretty awful about that."



» The beauty of *C&C* was that everyone had their preferred style. did you focus on infantry or turrets first?

» As devastating as the flamethrower units of Nod are, they are such a chore to use around your own infantry

Despite the disappointment, the announcement of *Warcraft* was still something of a stroke of luck; the team at Westwood had already decided to shift focus with Swords And Sorcery, instead changing the work-in-progress game into a military-inspired sci-fi RTS. "We were talking about it conceptually about what was making Dune II and some of the other products that we had so successful," recalls Louis, "and we said, 'You know fantasy's a strong genre,' but it also wasn't exactly on the uptick at the time. We felt that if we were going to make something that was massive then it had to be something that anybody and everybody could relate to." This led to the military setting we now know, with producer and fellow Westwood co-founder Brett Sperry, writer Eydie Laramore and programmer Joe Bostic collating their ideas – deciding that the future of warfare would look vastly different than what was expected at the time. "This was pre-9/11," says Louis, "and there was tension in the world about what wars would look like



and what was happening." The team decided that the war would be with "a terrorist organisation that doesn't have any state or boundaries and probably led by some maniacal figure who was bent on destroying the world." Thus Brotherhood Of Nod was born, and the Middle East would be the tension zone.

This change in design required a vast amount of new research, however. The mechanical prototype was already there, but to create a compelling, in-depth story would require so much more information. "I think that's part of why C&C had its charm, really, it was not meant to be a fantasy exactly, it was meant to be sci-fi with a heavy emphasis on the science, you know." Louis adds that, "All the units, all the buildings, everything that we went into were inspired by things that we were reading about, Soldier O*f Fortune* or magazines that were talking about it – there was no internet to speak of back then, so you couldn't really research things online like that. You had to go through magazines and archives and such. So we were trying to figure out

C&C WEAPON FACTORY

The many sequels and expansions of Command & Conquer. Which have you played?

COMMAND & CONQUER
PLAYFORMS: Various
YEAR: 1995

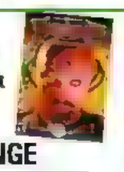
COMMAND & CONQUER: COVERT OPERATIONS
PLAYFORMS: Various **YEAR:** 1996

COMMAND & CONQUER: RED ALERT
PLAYFORMS: PC, PlayStation
YEAR: 1996

COMMAND & CONQUER: TIBERIAN SUN
PLAYFORMS: PC
YEAR: 1999

COMMAND & CONQUER: RED ALERT 2
PLAYFORMS: PC
YEAR: 2000

COMMAND & CONQUER: YURI'S REVENGE
PLAYFORMS: PC
YEAR: 2001



COMMAND & CONQUER: RENEGADE
PLAYFORMS: PC
YEAR: 2002

COMMAND & CONQUER: GENERALS
PLAYFORMS: PC
YEAR: 2003

what the military was up to and what was going to be the next thing. And so that's what, I think, made it fun."

As the team learnt more about new military tech, a clearer vision for the game began to form. "It was mostly magazines and periodicals," says Louis of the team's research, "and from a technology point of view we looked at the white papers. We were in the libraries and subscribing to all these publications just so that we would get a sense of what the people who were really into military kit were thinking was going to be coming. So we assumed that anything that was talked about as possibly coming was already here, and that was basically what inspired the units – so the Orca was the VTOL aircraft that was very sketchily talked about and was maybe plausible and Aaron just ran with it. The whole idea of the Mobile Command Centre, that was actually novel – I don't mean novel in games, but out in the world." It was important for Westwood to create a military universe that was believable, so grounded in reality that it felt like something a real military force might actually use. "In fact we even got a call from the US

INNOVATION TIME How C&C changed a genre

CONTEXT-SENSITIVE CLICKS

1 The biggest improvement *C&C* had over *Dune II* was its context-specific mouse control, which meant you wouldn't need to click an order button in the menu to issue commands to a unit. It was dependant on elements like cursor target and unit selected.

DIFFERENT PLAYABLE SIDES

2 It was novel for there to be distinct sides to play as, especially with units that differed from one another. GDI's units were often slower and stronger, while Nod favoured speedy skirmishes with cheaper – but weaker – units.

GUERRILLA MISSIONS

3 Despite heavily employing the idea of constructing a base and building an unstoppable force, *Command & Conquer* also introduced guerrilla missions. These levels gave you a specific set of units to use to survive the level, often in a bid to teach you a

new unit or means of attack.

CENTREING VIEWPOINTS

4 Though *Warcraft* was heavy on the keyboard shortcuts these were for spells and construction. *C&C* smartly enabled buttons to shift your view to your base, your next unit or the currently selected unit as well as custom map bookmarks. These days this is integral to quick and skillful RTS players, with the ability to keybind any structure or unit with a shortcut.

SUPER-POWERFUL UNITS

5 The commando unit was purposely powerful, and often only given in single unit quantities. It made them far more valuable than the rest of your forces, and was a precursor to hero characters and unique stage-specific units that we'd later see in a number of RTS games.

KILL COMMAND

6 In addition to the context-driven clicks, *Command & Conquer* also added the ability to hold the Ctrl key to force a unit to attack. In this way you could create kill zones with artillery, destroy walls and fences and even attack your own units.

GROUP SHORTCUTS

7 Issuing group shortcuts is a key aspect of RTS games these days, but *C&C* introduced the ability to save groups of units so that they could be quickly accessed and ordered about at any time. This was necessary to micromanage the movement and attacks of certain units to better counter (or defend) against your enemy.

TOGGLEABLE SIDEBAR

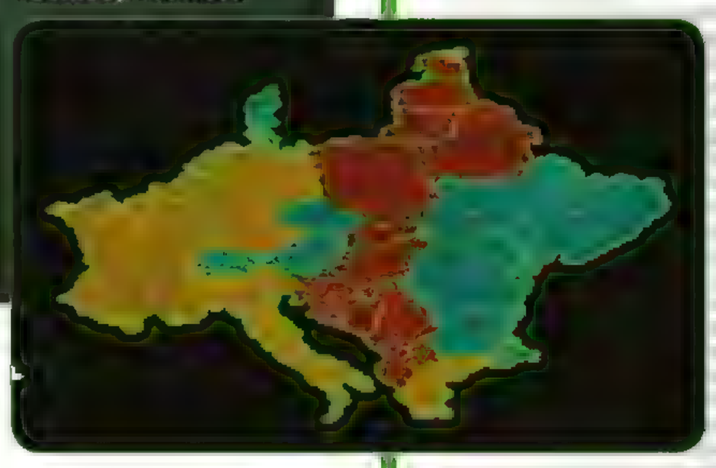
8 For the longest time RPGs and strategy games had their menus permanently up on the screen, available to select from at a moment's notice. Westwood streamlined the build menu but – better still – made it toggleable, giving you additional screen space to focus on your assault.

INSTALLATION SCREEN

9 There was a time – when Windows became dominant over DOS – where installation screens were made to be a little more jazzy and in keeping with the game being installed; *Command & Conquer* did this first, theming its installation screen around a military computer and even having it voiced by the in-game AI assistant 'E.V.A.' – the one who repeats "unit lost" over and over again.

SELECTED UNIT HEALTH

10 Dragging to select units featured in *Warcraft*, but it required a button press. *C&C* used a permanent drag-to-select option, and, since controlling large groups was so important, the ability to see all units' health was included by Westwood.



» [PC] The pre-mission map was a neat little touch, adding to the sense of your chosen faction's progress against the opposition

Westwood

IN THE KNOW

» **PUBLISHER:** Electronic Arts

» **DEVELOPER:** Westwood Studios

» **RELEASED:** 1995

» **PLATFORM:** DOS

» **PLATFORM:** Real-time strategy

» The opening mission for GDI is thrilling – even now – with clever scripting on Westwood's part to make it feel like the Normandy landing

» Of the early RTS games, *C&C* was best suited to micromanagement gameplay – or directing specific units or groups of units to better counter enemy forces

»

COMMAND & CONQUER: GENERALS – ZERO HOUR
PLAYFORMS
YEAR: 2003

COMMAND & CONQUER 3: TIBERIUM WARS
PLAYFORMS: PC, Xbox 360, Mac OS
YEAR: 2007

COMMAND & CONQUER 3: KANE'S WRATH
PLAYFORMS: PC, Xbox 360
YEAR: 2008

COMMAND & CONQUER: RED ALERT 3
PLAYFORMS: Various **YEAR:** 2008

COMMAND & CONQUER: RED ALERT 3 – UPRISING
PLAYFORMS: Various **YEAR:** 2009

COMMAND & CONQUER 4: TIBERIAN TWILIGHT
PLAYFORMS: PC
YEAR: 2010

COMMAND & CONQUER: TIBERIUM ALLIANCES
PLAYFORMS: Web browser
YEAR: 2012

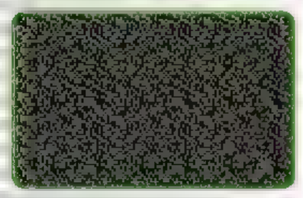
DEVELOPER HIGHLIGHTS

EYE OF THE BEHOLDER
SYSTEM: DOS
YEAR: 1991

LEGEND OF KYRANDIA (PICTURED)
SYSTEM: DOS
YEAR: 1992

THE LION KING
SYSTEM: Mega Drive
YEAR: 1994

» It was possible to come up with your own strategies when tackling the tougher missions, which felt more rewarding when they succeeded



»

» Missions were smartly designed to introduce new units or structures, advertising and utilising their abilities in certain ways to teach you how to play

TAKE COMMAND

Essential Command & Conquer tactics

TANK RUSH

■ It has since become synonymous with RTS games yet while the idea of the tank rush wasn't core to the gameplay – you'd need a mixture of tank types, for example – the strategy hasn't really changed to this day: build *a lot* of armoured vehicles, then roll them all into an enemy base.

GO COMMANDO

■ These units are the most powerful in the game by far, and though they can't endure excessive amounts of attacks – or, indeed, Nod's infamous flamethrower units – a single commando could still wreak havoc among an enemy base before he was finally put down. The unit would return in future instalments.

FROM AFAR

■ Using some long-range artillery is a great tactic since it'll let you ruin certain structures or units before the enemy even knows what's hit them. These units will obviously need to be protected, however, since it won't take much to find your heavy firepower and decimate it.

SNEAK IN

■ A sort of spin on the tank rush, the Brotherhood Of Nod has the Stealth Tank unit that could sneak into a base undetected. They are weaker than GDI's equivalents, but the Brotherhood's units give a great recon advantage that means you can more easily pick holes in their defenses and exploit them.

KITING

■ These days it'd be tricky to successfully kite an enemy's force into an ambush or turret traps you've set up, but it's still a viable strategy in *C&C* – especially against the AI. Get their attention and in many cases – when the AI feels it can survive – it'll simply follow you to your reinforments and ultimately its death.

▶ military," laughs Louis. "They were like, 'Who are you talking to?' and we said, 'We're just making shit up.' We said they were more than welcome to come and visit the studios, and they sent a person out to come and look at everything and, for a brief period of time, we were doing concept work for them. We did a few drawings for new weapon systems that they were thinking of using – but it was just too much aggravation for the money that they would pay. It was pretty funny: we imagined what the future would be, we visualised it and the US military came to us and said, 'Hey can you help us with some presentations?'"

As integral to the experience as the story was, it was important to get that gameplay just right, after all the idea of an RTS was still very new and Westwood knew there were improvements that needed to be made. The developer looked to *Dune II* for inspiration of what needed to be changed, and what should remain the same. "We wanted a catalyst for this World War that we wanted to create, and so that's how tiberium was born; you know, it's a space-born element that came to Earth and changed everything. So that was similar to the spice [in *Dune*]."

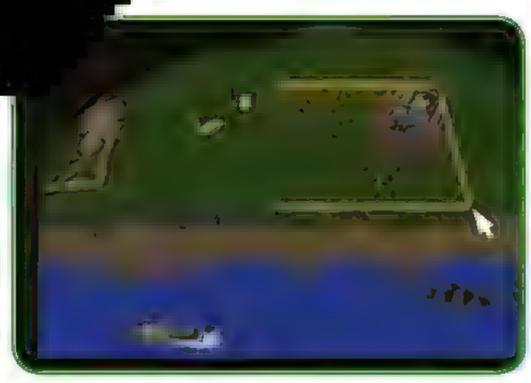
Everything else was built from scratch to ensure – as Louis puts it – that *C&C* would be a "great strategy game". Elements like the new units and menus, the cutscenes and even the context-sensitive cursor control all improved on the concepts set up by *Dune II*. "We got the context-sensitive mouse working," says Louis, adding that it was inspired through Westwood's own game *Kyrandia*. "There we wanted to make a point-and-click adventure game and context-sensitive just made it much easier to play."

But those in-game cutscenes really helped make the game standout. While other developers were beginning to play around with storyline elements through introductory scenes, Westwood really pushed the boat out by utilising both CG and live-action videos to bookend each of the game's missions. "We had Erin Powell who really wanted to be a moviemaker – and he ended up going on to make movies – and he was really into 3DS Max and then we had a couple of guys like Rick Parks and some others who were really into Lightwave and so there was a bit of rivalry between the two. They would go back and forth trying to outdo each other making these amazing 3D sequences." While much of what would be created would be far too intensive for the hardware of the time to run it, Louis claims that it could be repurposed for advertising. This tug-o-war of one-upmanship led to further and further advances until,

» The build queue was adapted on consoles to allow scrolling through the list of items and was perhaps the only way it improved over the DOS equivalent

eventually, it was decided to record live-action footage with real people. And many of those people were Westwood Studio employees: "We had Erin running in front of a white sheet and used chroma keying to create the scene with soldiers running along the deck of a ship at sunset. The guy who was doing exercises at the beginning of C&C was another one of our artists, the ones who are on the skateboards and the streets – well, we literally went out onto the freeway outside of Las Vegas and filmed a skateboarding scene for an energy drink without getting any permits or anything – and it was like, 'This is totally ghetto.' We had a great time."

It wasn't until Westwood brought in a man named Joe Kucan that the quality of these scenes really took off, however. "Joe Kucan actually came in acting and directing all of our film sequences," says Louis, "he did a fantastic job. A lot of what made C&C what it is falls squarely on Joe's shoulders as it were, he wasn't just our talent director he was also in charge of casting and of course he played Kane. So we got super, super lucky with Joe." With proper actors coming in to play the different main characters, C&C was able to



» The N64 port used 3D models, though the missions were the same. Here's the GDI starting mission

» The styles of GDI and Nod affected everything, from the design of structures, the types of weapons available.

really create a cinematic feeling to the game, making the divide between GDI and the Brotherhood Of Nod feel all the more tangible to its players. "We wanted to make sure that the choice between GDI and Nod wasn't just a choice of A or B or a racial choice – we wanted it to be philosophical. So are you about socialism? Nod was about the uprising of individuals, there's too much concentrated wealth, 'The big countries can't push us around', 'Everybody has the right to self-governance' – there's some important things inside of Nod that I think are important concepts. But on the GDI side it's like, 'Oh, well, we're the good guys', but they're pretty awful too. You're going to use your military might to enforce your will onto other countries, what right do you have to do that? It's about what makes it the right of the West to go into these Middle Eastern countries and take their resources."

"We literally went out onto the freeway outside of Las Vegas and filmed a skateboarding scene for an energy drink without getting any permits or anything"

Louis Castle

The two different sides gave Westwood a chance to integrate a little colour to the units and structures, with GDI donning a more clinical, militaristic style while Nod felt considerably more ragtag. There were differences in unit playstyles, too, and while balance was a concern Westwood still felt the need to offer up those distinct flavours. Where GDI's strength was in its defenses – with stronger armour across the board – Nod made up for it with speed and brutality, in particular the flamethrower unit. This balance was necessary if Westwood Studios was to release a game perfect for multiplayer, but sadly that's where the RTS stumbled. "The problem was we were ahead of our time," states Louis. "There weren't really defined protocols for doing internet-based play and such. The game was built back in 1993 and 1994 before Windows 95 had come out – which helped standardise the internet." Built off the codebase for IRC chat, Louis tells us of the decision and how it was chosen for expediency to release a version of the game with multiplayer available. "I think that was one of our biggest mistakes as a company, we should've built our own online platform – we paid for it again and again. I wish we had bitten the bullet and just gone off and done our own communications system, but sadly Westwood Online was built upon the framework of software that wasn't designed to do what it did."

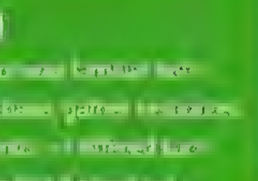
Not that any of that really mattered, in the end. For all its flaws surrounding multiplayer *C&C* was a thoroughly compelling title, whether you played it only in single-player or multiplayer. Releasing in 1995 for DOS with the Gold version – adding multiplayer and various improvements – in 1996. The game even went on to release worldwide ports to PlayStation, Sega Saturn and N64 throughout 1996 and 1999, with *C&C* becoming a smash hit – selling well over 3 million copies. *Dune II* might have been the birthplace of modern RTS, but it was *C&C* that not only standardised it, but popularised it too. It went on to establish one of gaming's most reputed franchises across three Tiberium Wars, three Soviet invasions in the *Red Alert* series and even the series' first fully 3D RTS in *Command & Conquer: Generals* – all the while duking it out with Blizzard and its set of RTS games. While Westwood Studios and *C&C* have since fallen at the hands of Electronic Arts at least we'll always have this truly important heritage to look back on.

» The limitations of the N64 cartridges meant that though it could handle 3D graphics it didn't have the space to store the videos, with mission briefings using still images with audio

MORE GAMES TO TRY

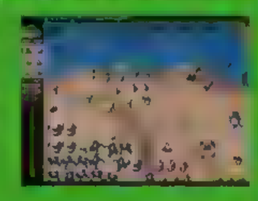
Still need a real-time strategy fix? Look no further than these

WARCRAFT II

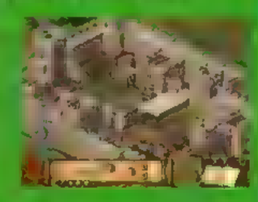


DUNE II

TOTAL ANNIHILATION



STRONGHOLD



AGE OF EMPIRES II

SUPER MARIO 64

How do you follow up arguably the best 2D platform game of all time? Nintendo's answer was to provide the defining example of a 3D platform game at its very first attempt...

How do you introduce a brand new concept but still retain your identity and heritage? It's a tricky thing to do, and a task that has tripped up countless games developers over the years. But for Nintendo the formula has always been simple – take an old property, find a way to update it with new technology, and reintroduce it to the market. The Nintendo 64's 3D games were most definitely a brand new concept, and Nintendo's ace Mario was the man for the job.

Of course, it's weird to think of *Super Mario Bros* as an "old" series, despite its longevity. The plumber's adventures have been ever-present for decades, after all. However, it was a series that slowed down ▶

Strange New Worlds

Your traveler's guide to the new locations Mario is visiting

Peach's Castle

It might not be counted as a level in its own right, but the royal kidnap victim's homestead offers much to play around with and explore. Climb the trees, take a dip in the moat, or explore the basement – it's up to you what you choose to do here.

Bob-Omb Battlefield

This introductory stage is pretty gentle, in spite of the presence of the titular explosive enemies. Race against Koopa, avoid Chain Chomp and get your first experience with the cannon. When you're feeling bold, face King Bob-Omb.

Whomp's Fortress

Trickier platforming starts here, as you'll encounter narrow walkways and the nasty Piranha Plants. The big bad guy here is the Whomp King, who would be a rock hard opponent if he didn't highlight his weak spot with a bandage.

Jolly Roger Bay

Ships and sea life are the order of the day here. There are no bosses, but Unagi The Eel plays a big part in the second mission. Grab every coin as there are only 104 in the stage – you'll need almost all of them for the seventh star.

Cool Cool Mountain

Mario gets a warm reception from the penguins in this chilly stage. The cosy mountain lodge you start off next to hides a dangerous ice slide, which forms the basis of many star missions – you'll race on it and even hunt red coins on it.

Big Boo's Haunt

Mario's ghostly persecutors are back, and once they take over the castle's courtyard you'll be able to visit their spooky home. Like with *Super Mario World*'s Ghost House stages, puzzling is the order of the day here.

Hazy Maze Cave

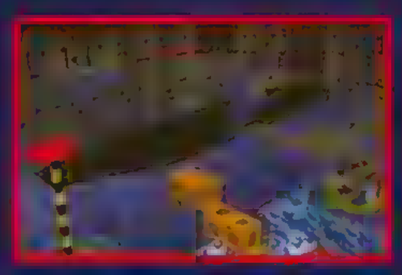
This subterranean stage is filled with the worst kinds of nasties – Monty Moles, Snufits and Swoopers. This is also where you'll first encounter the Metal Cap, an item that turns Mario into a shinier, heavier version of his usual self.

Lethal Lava Land

Bowser gets to show off his inner egomaniac here, as he's made a gigantic sliding puzzle featuring his own image. Of course, he's done this in an environment where he feels at home, which means you should expect hot lava.

Shifting Sand Land

This dusty desert features everything you'd expect, including a pyramid and some hazardous twisters, as well as the Pokeys that seem to inhabit dry areas within the Mushroom Kingdom. As you might imagine, the pyramid is central to many of this world's stars.



Dire Dire Docks

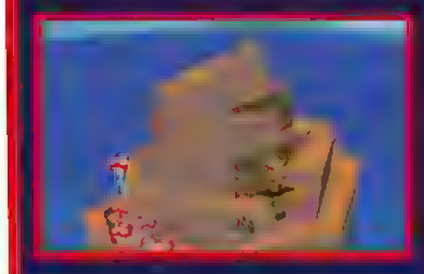
This area contains the pride of Bowser's naval fleet, an enormous submarine! Who knew he even had a naval fleet in the first place? You need to visit this stage to fight Bowser a second time, but it's worth it to meet one of the game's most memorable companions.

Snow Man's Land

This freezing stage is even colder than Cool Cool Mountain, and you'll find more penguins here. Less friendly are the Mr Blizzards and the icy Bully. There's a lovely igloo here, but our favourite bit of the level involves riding a Koopa shell to grab red coins.

Wet-Dry World

If it seems like the water level is never consistent in Wet-Dry World, watch where you jump into the level's painting – the higher you go, the higher the water. There's a neat town area here that seems to have been abandoned to the floods.

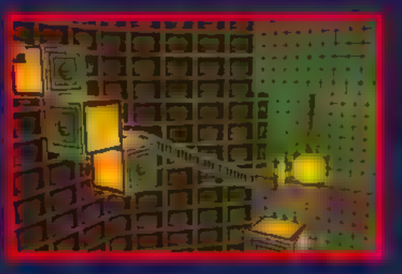


Tall Tall Mountain

As the name suggests, this rocky course is a hefty beast to scale, and you'll need to do so for your first star. At the lower levels, you'll encounter big mushrooms, and one of the stars involves relying on a primate to lead the way. Good job he's not from the Kong family!

Tiny-Huge Island

Size matters in this stage, as our hero encounters two portraits to enter it. If he visits the small one, Mario will be comparatively enormous, but on the large island he'll be tormented by enormous Goombas. Both sizes of island are required to gain certain stars.



Tick Tock Clock

The trickiest timepiece of all time hosts some fiendish challenges, as well as pendulums of impressive scale. It's also the area that most clearly illustrates the difference between the game's two major versions – the DS version has been extensively reworked.

Rainbow Ride

Mario goes sky-high for the last of the game's regular stages, hopping between floating islands on magic carpets. You won't find a wing cap here, so Mario won't be doing any flying of his own

enormously after its initial hits. The original *Super Mario Bros* NES trilogy and the sublime *Super Mario World* for the SNES appeared in quick succession, but then Mario's platforming adventures came to a sudden stop. Our portly protagonist started his hit tour of other genres, and platform games were given over to the likes of Yoshi. By 1996, it would be fair to say that a proper Mario platform game had been long-awaited.

The problem that Nintendo had to solve was how to even present Mario in 3D. Shigeru Miyamoto had reportedly toyed with the idea of a Super FX-powered 3D platform game for the Super Nintendo NES, and decided against it. Later, during the development of the Nintendo 64 hardware, the team experimented with linear levels with an isometric-style camera position. In the end, Nintendo EAD decided to go with ambitious free-roaming 3D levels that the player could explore at will, with no defined end point and plenty of things to discover.

If that lack of a defined end point sounds like a huge break from *Mario* tradition, that's because it was. Even in *Super Mario World*, which wasn't a linear game, each level had a start point, an end point and a series of challenges to overcome along the way. In *Super Mario 64*, the nature of those challenges had to change significantly because of Mario's new-found freedom of movement. Even a Goomba was a threat in *Super Mario Bros* – at the very minimum, it forced a button press to jump onto or over it. In *Super Mario 64*, dealing with a Goomba would most often be a simple case of running around the problem.

As a result, traditional "reach the goal" platform gameplay was ▶

Magic Moments

Super Mario 64 was full of memorable bits – here are some of our favourites

Racing A Koopa

1 Your first taste of how differently *Super Mario 64* operates is likely to come when Koopa The Quick decides to chat with Mario, rather than simply wandering into him. He wants a race – and Mario loves to race.

Discovering Your First Secret Star

2 Wandering into an empty room, you find yourself jumping against the walls for the heck of it, only to discover a secret passage through a window to a slide racetrack. Wow! Even the hub world can help you progress...

Big Bad Bowser

3 You've faced him countless times before, but now Bowser is not only huge, he's got a positively evil expression on his face and it's much worse in 3D. You're locked in combat with him until he eats his own bombs a few times.

Tinkling The Ivories

4 Is it possible to be frightened by a *Mario* game? Not often, no. But this gave many players a fright. As you pass the piano in Big Boo's Haunt, all seems normal – right up until it grows teeth and starts chasing you.

A Ray Of Sunshine

5 The PlayStation had a manta ray tech demo, but the common question when it came to *Super Mario 64* was "Have you got to swim around with the manta ray yet?" It's clear why people raved.

Taking To The Sky

6 Mario has been airborne before in *Super Mario Bros 3* and *Super Mario World*, but the glory of full 3D flight is a different matter altogether. Thankfully you can experience it with the wing cap, which affords our hero flight.

Man In The Mirror

7 When you come across a mirror in the castle, take a gander at Mario. Not to admire his 'tache (though it is quite lovely), but to realise the attention to detail here – Lakitu's following Mario around with a camera, documenting everything.

A Familiar Friend

8 Once you've beaten *Super Mario 64* with all 120 stars, you might think that you've exhausted the game. But there's still one more thing left to do – scale the castle and visit Yoshi, who waited until you'd done all the work.

Reach For The Stars

Getting all 120 stars is no easy task – here's how to nab some of the trickier ones...

Metal-Head Mario Can Move!
Course: Hazy Maze Cave

■ As Metal Mario, you need to follow a brown path across the floor of the underground lake in order to avoid slipping off course. The trick here is to go quickly – you've only got a limited time as Metal Mario.

Stomp On The Thwomp
Course: Tick Tock Clock

■ There's a lot of tricky timed platforming to do before you reach the Thwomp of the title, and you don't need to attack it – you just need to hitch a ride on it in order to get the height needed to reach the star.

Big Boo's Balcony
Course: Big Boo's Haunt

■ Make your way to the third floor of the house in order to have a scrap with your foe, Big Boo. You can beat him by hitting him from behind. Then you need to make your way to the roof of the house to claim the star.

Wing Mario Over The Rainbow
Course: Peach's Castle

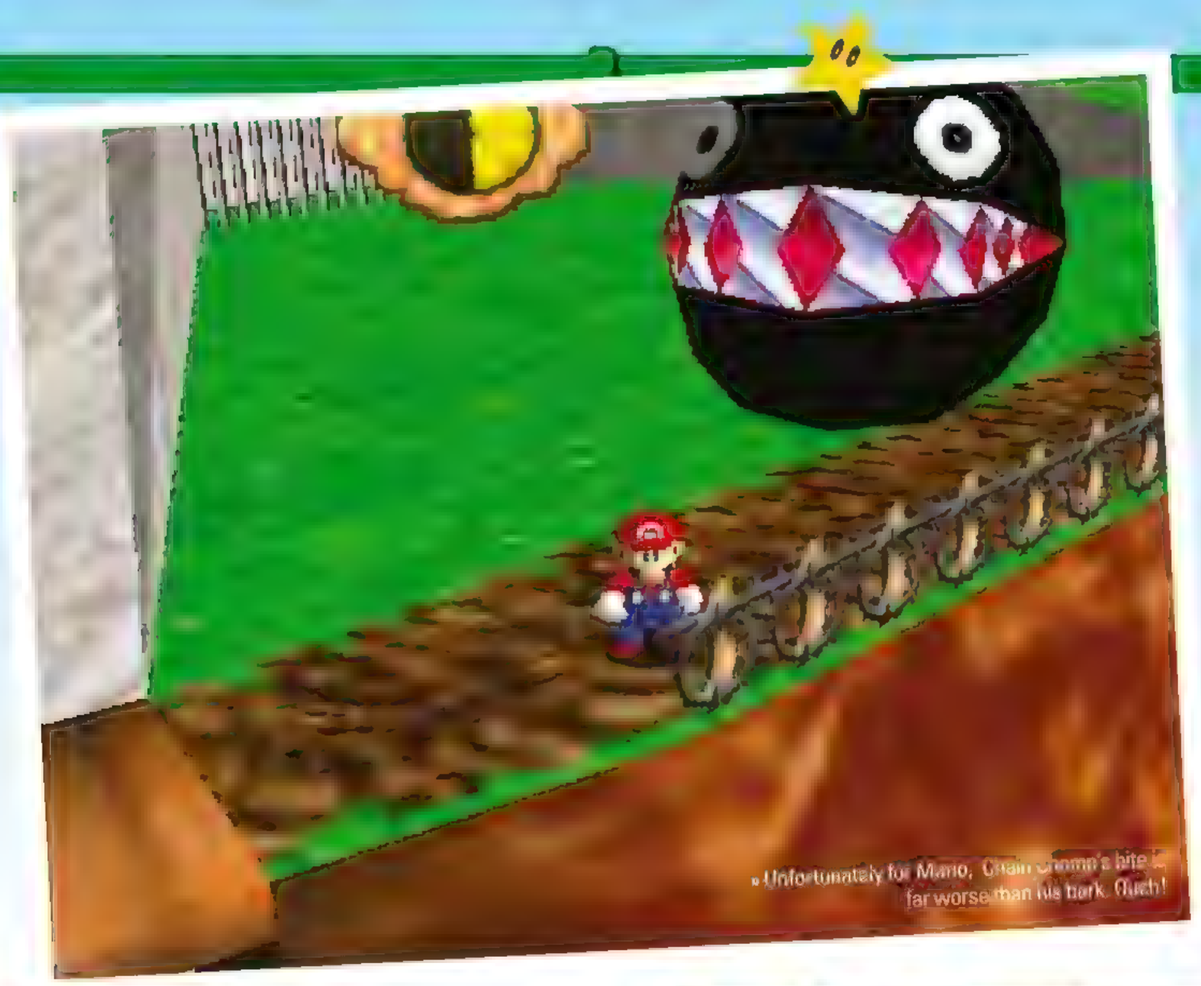
■ You need to work out a route – you've got access to cannons and the wing cap. Remember that Mario can fly straight through the transparent clouds, and stop off for new wing caps periodically.

100 Coins
Course: Rainbow Ride

■ 100 coins? That's a goal in every level, but it's a particularly nasty one in Rainbow Ride because death resets the counter, rendering all your progress pointless. The only advice for this one is to be very careful indeed...

Somewhere Over The Rainbow
Course: Rainbow Ride

■ Go find the Bob-Omb Buddy (he's in the coin maze, where you found the third star) and then get to the cannon on the airship. Now shoot towards the far-off platform – aim well or die!



» Unfortunately for Mario, Chain Chomp's bite is far worse than his bark. Ouch!

"Mario has a variety of new moves, from jump variations like the triple jump to his ground pound"

▶ decidedly out of the question. Instead, a system of multiple goals was included within the game – each of the game's worlds contained six Power Stars, gained by completing missions within the world. These had a variety of forms, from battles against mini-bosses to races and treasure hunts. Additionally, every world offered a bonus star for finding 100 coins. It was an innovative way to take advantage of the space afforded by the new 3D stages, but it also proved to be a necessity – with just eight megabytes of cartridge space to play with, the developers only had room to include 15 stages.

Much like the levels themselves, the order in which you tackled them was up to you – as long as you had enough Power Stars to hand. Even getting to those levels was a treat, as the maps of *Super Mario Bros 3* and *Super Mario World* gave way to Peach's Castle, the most interactive level selection menu in *Mario* history. Not only was the castle a nice sandbox area for Mario to run about, it had a variety of secrets of its own from a cool slide to a basement-dwelling rabbit called MIPS, and discovering them would earn you further stars. As you gathered stars, previously locked doors would open up and allow access to new stages.

» Congratulations, you've earned yourself a star. Only another 119 to go...

But for all of the amazing level design and innovative structure, *Super Mario 64* would have fallen flat if the game didn't have the same tight feeling as the 2D *Mario* games. Luckily, the joy of the game is in its movement. Mario has a variety of new moves, from jump variations like the triple jump and backflip to his ground pound, a move which sent our hero plummeting buttocks-first into the floor. Likewise, the physics worked beautifully – even watching Mario fail to make it up a steep slope is entertaining, as his little legs work overtime before giving out and leaving him to slide downhill on his belly. Crucially, every item – including Mario – has a fixed shadow beneath it, providing a helpful guide for players unused to controlling characters in a 3D space.

As you might expect of such a revolutionary game, *Super Mario 64* was the recipient of enormous acclaim from the press. The debut issue of *N64 Magazine* capped a 14 page review by telling readers that the game was "so far ahead of everything that comparisons seem meaningless," awarding it 96%. *Maximum*'s final issue declared it "an almost mind-expanding experience," and it was the first

Pyramid Puzzle
Course: Shifting Sand Land

■ It's a long and arduous trek for this star, as you need to find five very particular coins in this puzzling level. Two are on platforms near a sand duct, and the other three are located where the sand moves to the first floor.

Blast To The Lonely Mushroom
Course: Tall Tall Mountain

■ This one's a real pain to obtain – there are lots of ways you can do it, but we feel the best is to find the portal in the mushroom clump, get to the cannon and shoot your way to victory.

Can The Eel Come Out To Play?
Course: Jolly Roger Bay

■ Hang around Unagi's hidey-hole to lure him out, then catch the star on his tail. The key is timing – if you don't move as soon as he does, you'll likely need to surface for air.

Elevator Tour In The Volcano
Course: Lethal Lava Land

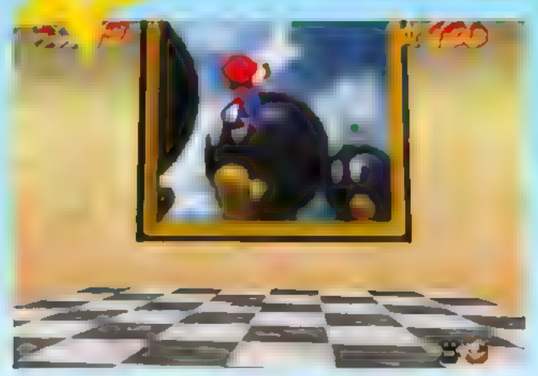
■ Tricky platforming is the order of the day. Get into the volcano, then prepare for precision platforming – you'll need to recognise when the checkered platforms are about to drop into the lava.

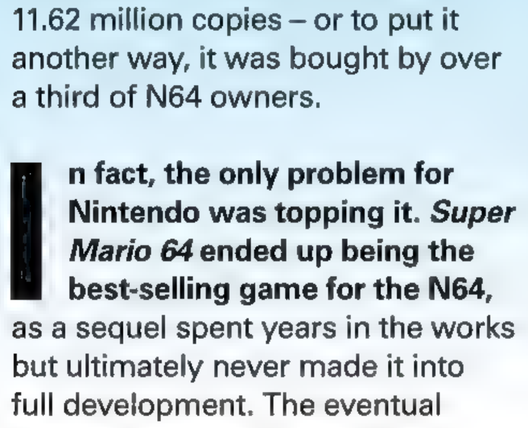
game ever to receive a maximum score of ten from *Edge*. If there was a single blotch on the otherwise spotless record of universal acclaim that *Super Mario 64* received in its day, it was that the camera system was not quite perfect. That didn't matter a jot as the game was an absolutely enormous hit, selling 11.62 million copies – or to put it another way, it was bought by over a third of N64 owners.

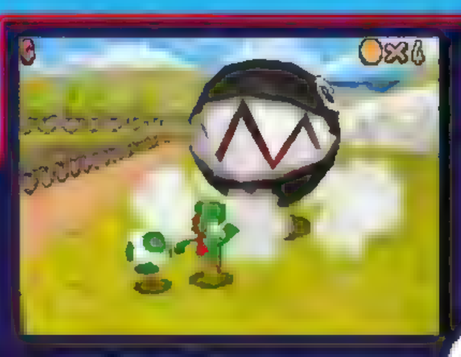
In fact, the only problem for Nintendo was topping it. *Super Mario 64* ended up being the best-selling game for the N64, as a sequel spent years in the works but ultimately never made it into full development. The eventual Gamecube sequel *Super Mario Sunshine* was a great game in its own right, but not the revolutionary experience that its predecessor had been, and even the astonishingly creative *Super Mario Galaxy* borrows much of its game design from Mario's first foray into 3D.

Beating *Super Mario 64* was a nice problem to have though, especially since everyone else was playing catch-up.

Developers around the world aren't shy about admitting that the vast majority of 3D videogames from the time owe something to *Super Mario 64*, whether they drew inspiration from its mission-based structure, Mario's movement, the camera design or even the game's fun hub world. It's an astonishing accomplishment, especially for a launch game – a perfect demonstration of its hardware, a revolution in game design and a best-seller. Games like *Super Mario 64* don't come along every day, or even once in a generation. *Super Mario 64* might well be the kind of forward jump for videogames that comes along once in a lifetime.







DS Excess

The story didn't end on the N64...

If you have a genre-defining 3D platform game under your belt from the debut of your 3D-capable home console, it seems almost silly to leave it lying dormant when you introduce 3D to another new market. Thus, Nintendo brought *Super Mario 64* to the Nintendo DS when the handheld system arrived in stores at the tail end of 2004. However, *Super Mario 64 DS* was far from a straightforward conversion – it actually ended up being an enhanced remake of sorts, with changes to quite a few aspects of the game.

The biggest addition was the inclusion of three new characters – Luigi, Wario and Yoshi, each with their own special attributes for jumping, power and speed. The game also includes new missions for a total of 150 Power Stars, up from 120 in the original, and some of the game's graphical elements have been updated for the new hardware.

Super Mario 64 DS wasn't critically successful as the original, in large part due to the digital controls players had to make do with, but it was a hit in sales terms. 11.06 million copies have been sold, putting it only slightly behind the N64 game.

THE MAKING OF FINAL FANTASY® VII

In the mid-Nineties, Square's flagship franchise abandoned Nintendo's hardware and embraced the PlayStation, a move that would lead to Final Fantasy VII, an ambitious, refined and enormously influential RPG. Director Yoshinori Kitase and art director Yusuke Naora discuss the creation of this masterpiece with us in unprecedented depth. Steven Spielberg's Jaws fits into it somewhere, as Samuel Roberts discovers...

Without hyperbole, *Final Fantasy VII* is the RPG that changed the genre forever. Opening the Western floodgates to Japan's own style of role-playing and popularising the entire sub-genre, the 10-million-plus-selling game was, for many players, their introduction to the potential of interactive storytelling and the first videogame narrative to leave a mark on them. It's also divisive, anecdotally referred to as the most returned game of all time and often criticised by Western RPG veterans – yet such cynicism can't mask the impact it had upon release in 1997. Along with *Gran Turismo*, *Final Fantasy VII* shifted millions of PlayStation consoles by demonstrating the machine's capabilities, captivating gamers with a fictional universe of unrestrained scope and style that would govern an entire corner of the industry. Back when the game was being created, Square (today known as Square Enix) was a company in transition, and the influx of talent that brought *FFVII* into being, as well as a development culture that fostered creativity, was ultimately responsible for this deservedly celebrated RPG.

At the 1995 SIGGRAPH computer graphics convention in Los Angeles, the company formerly known as Square presented an interactive demo to the world that showcased its *Final Fantasy*

property in unprecedented fashion. This project depicted three characters from *Final Fantasy VI* fighting a Golem enemy in full 3D, a jaw-dropping contrast to the SNES-based 2D roots of the game, complete with visual effects and cinematic in-battle camera angles that implied a future beyond the static staging of the series' stories up until that point. When you look at the tech demo now, you can absolutely see the founding technical conceit of *Final Fantasy VII* embedded within it. Squaresoft saw that *Final Fantasy* could be so much more on a platform that allowed the company to experiment with such high-end technical ideas.

The SIGGRAPH project would form the 'seed', as producer and creator Hironobu Sakaguchi dubbed it on a promotional video for the game, of *Final Fantasy*'s move into the next console generation. To any seasoned gamer, the most well-known part of the development of *Final Fantasy VII* is the defection that started it all. Long considered a Nintendo stalwart since the original *Final Fantasy*'s release on the NES in 1987, Square shifted to the PlayStation for its CD-ROM capabilities over the N64's comparatively limited cartridges. This fit the grand ambitions of this new sequel.

"We were fans of Nintendo's hardware, although in order to use CG movies in the game like we intended, we needed a lot of storage space, and for that reason decided on a platform that used the higher-capacity CD media," director Yoshinori Kitase tells us.

How ironic that this franchise would soar on a Sony platform, given that Nintendo publicly broke away from a CD-enabled SNES collaboration with the electronics giant earlier in the decade. The emerging disc format enabled *Final Fantasy VII* to be far more cinematic than its forebears – an important factor, especially to Sakaguchi. Yet an interesting factor in all this was the set of technical influences on the team, many of whom were from Western game development, as Kitase explains to us: "We looked at trends in the foreign-made PC games of the time, such as *Alone In The Dark* and *Heart Of Darkness* [and so on], and made it our objective to combine together smooth action sequences using polygon-based characters and clever camera work with the insertion of effective CG movies at a high level. I believe that we pretty much achieved our goals in this regard."

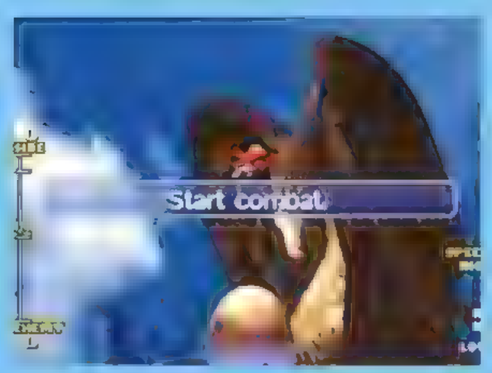
When it came to setting and story, Final Fantasy VII would similarly be a departure from series convention. While the previous entry in the series had a pronounced steampunk theme, the set of environments in the seventh game would vary massively from continent to continent, from a vast, polluted metropolis to backwater towns;

DISTRACTIONS

The best of Final Fantasy VII's many extra tasks and mini-games

Chocobos

Catching them, riding them, racing them and breeding them – the Chocobo element of *FFVII* is a game in itself, and becomes bewilderingly complex when you're looking to breed that lucrative Gold Chocobo, which can reach parts of the map that even the Highwind cannot.

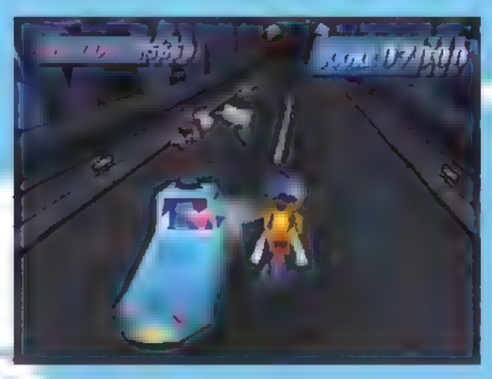


Battle on Fort Condor

Visiting Fort Condor triggers this intriguing little strategy offshoot, where you fund small skirmishes to hold back Shinra forces from the giant bird perched atop the fort. It's no *Age Of Empires*, but it shows how diverse the ideas are in *FFVII*.

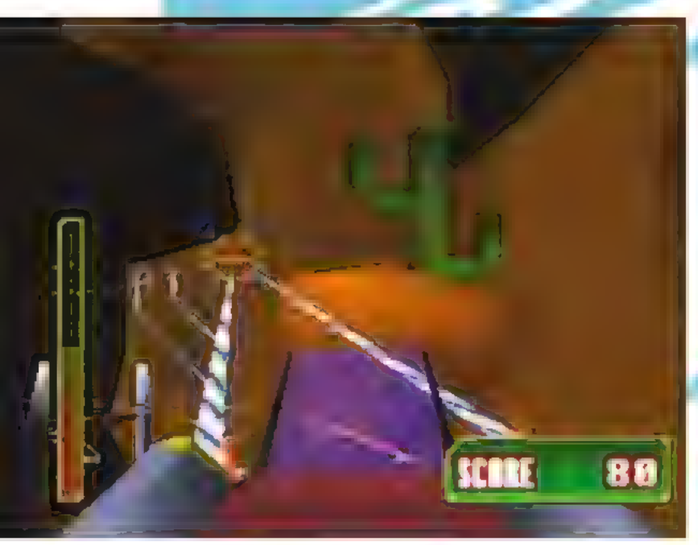
Snowboarding

On the second disc, Cloud gets the opportunity to snowboard down a mountain. Later in the game, it re-emerges as a tricky arcade game at Gold Saucer's Wonder Square. This mini-game was popular enough to justify a mobile spin-off, which is naturally only available in Japan.



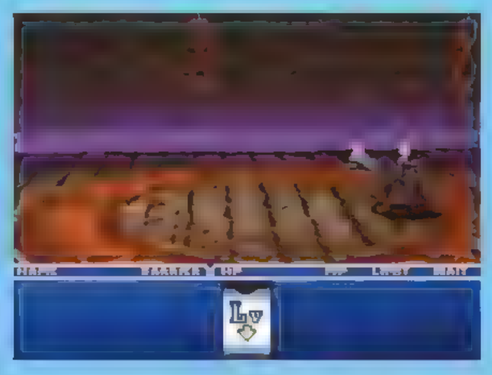
Motorcycle chase

One of the nicest surprises early on is an action-based mini-game where you have to protect your comrades from Shinra soldiers on bikes by ramming them off the road with Cloud's inexplicably large Buster Sword. It's great fun.



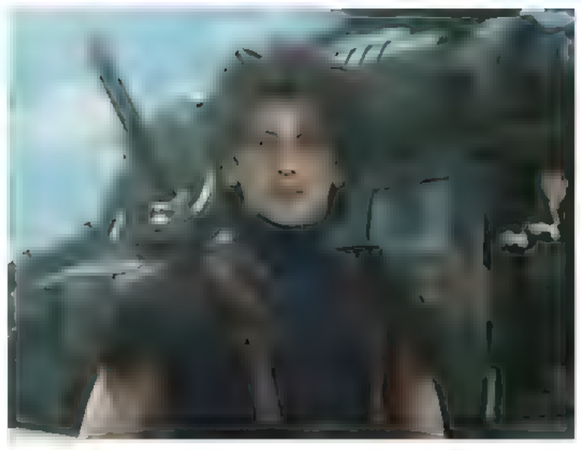
First-person shooting

Visiting the 'Speed' part of Gold Saucer triggers this bizarre but quite impressive first-person shooter section, where hitting a high score lands you a prize. This is notable for its kaleidoscopic visuals, in stark contrast to much of the game.



Battle arena

The only way to get Cloud's Omnislash Limit Break outside of the finale, and a clever means of extending the combat's appeal, the battle arena on Gold Saucer is a relentless challenge where you have to survive successive rounds of enemies and status ailments.



FINAL FANTASY VII'S UNSUNG HERO

Kitase weighs in on the oddly high popularity of Zack Fair, Cloud's former mentor

As you may recall, the entire flashback sequence where Cloud remembers the events in Nibelheim that led to Sephiroth's transformation into a twisted enemy turns out to be a bit different. Later, we learn that Cloud confused himself with Zack, his superior in the army. Ever since then, Zack has remained a popular figure among *Final Fantasy* fans, which led to the spin-off *Crisis Core*. His role in Cloud's story makes him a unique element in *FFVII*'s tangled web.

"Zack is the vessel onto which Cloud twistedly projects his complexes towards SOLDIER [Shinra's elite fighting force]," Kitase tells us. "He was created by the scenario writer, [Kazushige Nojima], as he was trying to build up the mystery surrounding Cloud's past, and we did not originally think of Zack as a major character, but he seemed to be strangely popular with the fans. Much later on, Zack featured heavily in *Crisis Core*, and Mr Nojima was in charge of the scenario for both titles. When he first created Zack, I doubt that he could possibly have thought that we would be delving into the same character's story ten years on!"

» Even though players could avoid him entirely, Vincent earned his own cult reputation.

that clash of futuristic technology against these remnants of a beautiful old world.

We asked Kitase to discuss the inspirations for the planet's creation, and he graciously passed our questions on to *FFVII*'s art director, Yusuke Naora. "Initially we wanted to try something new by having a corporation as the major enemy while still keeping the game broadly in the fantasy genre," he explains, referring to the Shinra Electric Power Company. "Having decided on this concept, we actively included many steampunk-like elements to try to merge the appeal of traditional high-fantasy 'brick-built' structures and sci-fi elements at a high level. However, as there was to be magic present in this world, it would have been hard to have cyberpunk-esque unknown future technology sitting comfortably with the other influences, so we tried to keep that aspect down as much as possible."

Naora continues: "On the design side, we were also very much inspired to mix in things from many different periods in a semi-chaotic manner, including things from our everyday lives such as the newer buildings in Tokyo, the streets of Ginza, and the Shibuya station building." All this led to a laudably diverse set of environments, which still felt like a cohesive part of the same world.

The setting was closely connected to the narrative – the backdrop of *Final Fantasy VII*'s story is that the planet is suffering, being mined of resources by the ruthless Shinra, which is also a prominent military force. Yet the central conflict of the story is actually smaller-scale than that. For the developers, it was more about the symbiotic struggle between the hero, Cloud, and the calculated villain, Sephiroth, that drove the game forwards, as Kitase explains: "Throughout the story I really wanted to depict Sephiroth as an overwhelmingly powerful threat. However, if you have a villain as an actual opponent who appears before the heroes then however strong or charismatic you make the character, he will still feel very much 'life-sized' and limited in scope, reduced to another minor evil."

What source of inspiration helped the team tackle this issue? You'd be surprised. Kitase continues: "To solve this problem, I decided to present Sephiroth indirectly, making the player aware of his existence through hints and stories but not having him show himself before them much. The player sees the aftermath of his ruthless deeds but does not arrive at the source of the evil for a long time. This was the same method used by Steven Spielberg in the film Jaws. Finding the butchered President Shinra on the top floor of the Shinra building and the impaled body of the Midgar Zolom are moments symbolic of this approach."

Players don't properly encounter Sephiroth until they're around ten hours in, and even then it's in fleeting glimpses – we see him prominently in flashbacks, leading to the discovery about his sad origins and subsequent breakdown. He, along with the attached musical theme, *One-Winged Angel*, would become iconic aspects of *FFVII* upon release. Cloud, the amnesiac hero trying to piece his distressing memories back together, was an equal point of fascination for players. It's this dynamic, with their subsequently explored history of bloodshed and trauma, that players hadn't seen before in *Final Fantasy*.

"We made it our objective to combine smooth action sequences with CG movies at a high level"

» *Final Fantasy VII*'s Materia system is so deep that it can eventually transform the entire rhythm of a battle, by letting you alter the conditions of it.

THE GREATEST MOMENTS OF FINAL FANTASY VII

Not featuring Cloud in a dress

That death...
You knew it would be this – shocking, sad and brilliant on the part of the Squaresoft team, a certain character is murdered by Sephiroth at the climax of the game's first act. It's notable because it is so brutal, but this brave move to take the character out of the story meant *Final Fantasy VII* would be forever remembered by players.

Omnislash
The entire game builds to this final conflict between Cloud and Sephiroth, where the hero slices down the grey-haired villain in spectacular fashion, using his final Limit Break, Omnislash. All right, so it isn't necessarily the first time you use Omnislash, but it's still a thrilling component of the game's conclusion.

The Weapons emerge out of the crater
Sephiroth unleashes Weapons on the planet, giant boss-style creatures that, when put together, look like something out of a Japanese monster movie. The idea of the optional super-boss is a *Final Fantasy* staple – here, they're made a key turning point in the story, in another example of Square's pioneering FMVs.

500 years later...
After the credits, we're treated to this brilliant but somehow chilling scene, 500 years into the future. We see Nanaki and his children running through a canyon, before emerging onto a vista that shows an abandoned Midgar, overgrown and free of the technology that drained the life of the planet.

The President is dead
When Kitase alludes to *Jaws*, he's referring to this scene where the player reaches the top of Shinra Headquarters and finds the President dead, impaled by Sephiroth's katana. It's a brilliant way to bring the villain into the story, having him lurk just out of reach.

Summoning Knights of the Round
Knights of the Round was easily the most lavish summon spell in the entire series up until that point. The animation for the attack, Ultimate End, sees 13 knights battering the enemy with a slew of extraordinarily powerful moves; a just reward for the exhausting process of breeding a Gold Chocobo to get it.

Sephiroth walks into the flames
The highlight of the entire Nibelheim flashback, told from the village of Kalm early on in the story, is an eye-opening cinematic where Sephiroth turns away from Cloud into the flames, after the twisted warrior burns the town to the ground. Perhaps the most visually recognisable part of the game.

Zack and Cloud escape Nibelheim
In this flashback, the events of the Nibelheim incident are fully disclosed. We learn that Cloud borrowed Zack's identity, and that this member of SOLDIER was gunned down by Shinra outside Midgar. This sequence is made all the more sad when you've earlier encountered Zack's parents in the town of Gongaga, where both his mother and father are completely unaware of his tragic fate.

Emerald Weapon swims out of the darkness
Late into the third disc, heading into the ocean with the submarine gives the player a few surprises, including the final whereabouts of the Turks, Shinra's agents whose paths cross yours throughout. That's before you see bubbles emerge out of the black, though – when the fearsome Emerald Weapon drifts towards you in terrifying fashion. Brr! It's an absolute bitch to kill, too.

Getting the Highwind
Final Fantasy as a series is ingenious in the way it lets you manoeuvre around the world. When you get the Highwind, you can go almost anywhere in the entire world, a gloriously freeing reminder of the diversity of locations within the game.

"Furthermore, however far the player pursues him, Sephiroth is always just out of reach, and because of this our image of him becomes more and more idolised and idealised," explains Kitase. "This story structure also overlaps with the reasons that Cloud has such a complex about his own troubled past, and I believe it is a very effective tool for showing the relationship between the two characters."

All the character designs and their personalities were left in the hands of the designers, a break from previous games, where Sakaguchi would oversee their conception. This was also the first project where Tetsuya Nomura would be the sole character designer, who, having contributed work to *Final Fantasy V* and *VI*, replaced Yoshitaka Amano from the previous titles. A *Famitsu* interview with Nomura (translated by Andriasang) explains that Cloud was essentially his creation, yet Kitase told us that determining both the looks and personalities of every one of *Final Fantasy VII*'s iconic cast of characters was "largely the responsibility of [Nomura]". It marked a sea change for the series. Gone were the primarily medieval, dreamy heroes of Amano, and in came a fresh, exciting array of heroes that would have an extensive impact on Japanese popular culture – not to mention birth a string of ideas that would be appropriated into character clichés, like spiky hair and giant swords. Amano would still contribute character sketches and the iconic meteor logo, however.

The immense back story for these heroes and villains was fine-tuned by scenario writer Kazushige Nojima, while many of the actual narrative ideas came from a unique exercise that once again showed Squaresoft's experimental approach. "When designing the game, we asked all staff on the *Final Fantasy* team to submit possible episode ideas for character back stories and created the overall stories by putting these together," says Kitase. "It was the scenario writer, Mr Nojima, who managed to put together a complete and detailed story from this massive pool of ideas, a process that was much like putting together a jigsaw puzzle."

This exercise led to an intriguing collection of stories across the cast of heroes, with one main plot driving it all: the planet's impending destruction at the hands of Sephiroth, where he would harness the world's natural defences – known as the Lifestream – for himself. The cast of *Final Fantasy VII*, including the tortured, unfocused Barret; last of an ancient race Aeris (or Aerith – a misspelling in the game's translation, as you probably know); and down-and-out pilot Cid Highwind; as well as more esoteric faces like the tomb-dwelling, optional companion Vincent Valentine, struck a chord with gamers, as their stories dovetailed skilfully with the main narrative.

These small tales, even Sephiroth's, traced back to the all-encompassing Shinra plot device – this corporation that is draining the planet of its resources. Given that *Final Fantasy VII* was made in the mid-Nineties, you could draw obvious parallels with the real-world environmental issues

at that time. Yet environmentalism, surprisingly, was not part of the team's storytelling agenda, as Kitase explains to us: "We did not particularly plan on bringing out environmental destruction as a major theme of the game but rather intended the story to depict the internal struggles of Cloud and Sephiroth.

"However, if pushed I would probably say that this theme was not so much that of concern over destruction of the environment but more about how we wanted to show how civilisation and the environment coexist. Cloud and his companions first appear in the game as a group trying to take down the Mako reactors, but in the end we see them getting help from the Lifestream that is the source of that energy, and going forward into a future of coexistence with the planet. I believe that this theme of how we can strike a balance and live in harmony with the environment is one that is shared by all of us."

The Lifestream is the literal embodiment of the planet's energy in Final Fantasy VII, a place that all life emerges from and where it returns to with the event of death. Its genesis came from Sakaguchi, who had come up with the idea as a reaction to tragic events in his own life. "When we were creating *Final Fantasy III*, my mother passed away," he said in a video to coincide with *FFVII*'s release. "And ever since, I have been thinking about the theme of life. Life exists in many things, and I was curious about what would happen if I attempted to examine life in a mathematical and logical way; maybe this was my approach in overcoming the grief I was experiencing."

» [Top left] Catching and breeding Chocobos is one of the true tests of *Final Fantasy VII*.
» [Bottom right] *FFVII* is a high point for the series' stunning creatures, with Bahamut being a decent means of lazily dispatching enemies.

"Sephiroth is always just out of reach, and so our image of him becomes more and more idolised"

With that delicate balance in mind, an antagonistic force like Shinra seemed suitable – it also presented a fine opportunity to go against the curve of the last six games. "We had a feeling that ideas for villains in RPGs had kind of become stale and repetitive, with it always being something like a massive dragon or an evil ruler who had acquired an ancient power," says Kitase. "When we asked ourselves what a more modern take on a powerful evil would be, we came up with the idea of a corporation that pollutes the environment for excessive profit."

The most talked-about moment in this complex tale, though, would be the death of **a major character**. One of the conditions of running our exclusive interview from Square Enix was that we wouldn't reveal this character's name – but you know which one we're talking about. Everyone knows it. You might have spent hours training this character up before the event occurred.

Randy Pitchford
CEO, Gearbox Software

"**Obviously, role-playing** games were a huge influence on *Borderlands*. *Final Fantasy* offered many of the standards and tropes that are borrowed by many role-playing games of today. The engagement and motivation that comes from levelling up and the draw of collecting loot first became clear to all of us when we did such things with pencil-and-paper games. While many PC games applied these principles, *Final Fantasy* managed to capture the design in a most accessible way at a time when our controllers had only a D-pad and two buttons. The elegance of the *Final Fantasy* approach to role-playing has inspired a generation.

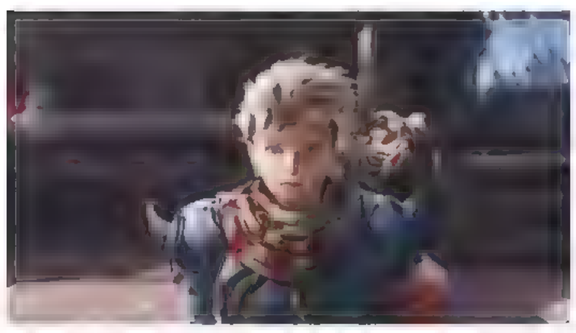
In fact, the very first videogame that my wife and I played together from beginning to end was the first *Final Fantasy* game on the NES. To this day, we have fond memories of that experience and an irrational loyalty to the franchise. I know that many people see *Final Fantasy VII* as the high-water mark for the series, but for me it was the earlier *Final Fantasy* games on the NES and Super Nintendo that have had the most impact."

WHAT HAPPENS NEXT...

SEQUELS IN FINAL FANTASY

Final Fantasy X-2

Solid and technically superb but tonally misfiring, *Final Fantasy X-2* took *FFX*'s timid protagonist, Yuna, then popped on some hot pants and gave her a couple of guns. The game's 'Perfect' ending is almost worth playing through it alone for fans of the first game, though.



Final Fantasy IV: The After Years

Originally released on mobiles in Japan, then through WiiWare and again on the PSP with *Final Fantasy IV: The Complete Collection, The After Years* is a direct sequel that is built with the look of the original SNES title. The PSP version presents it in the most coherent, beautiful form.

Dissidia 012 [Duodecim] Final Fantasy

Forget the stupid title. Aside from the unfortunate shortage of new content, this sequel to the fan-service-packed original is a top-notch action RPG that was snubbed last year, no doubt affected by the PSP's atrocious piracy rates. Nevertheless, it comes packaged with the first game, so get it if you have the chance.

It didn't matter. This character was wiped out of the story. Such a brave decision would be the defining moment, and it stunned this new generation of JRPG fans, and is still the subject of much conversation today.

It is odd that Square Enix declined to comment on the sequence, having done so in the past – even Kitase himself, back in 2003. It could be that the company is hoping new gamers discover *Final Fantasy VII* through the PlayStation Store, or that something new involving the game is in the pipeline. Either way, that moment was designed by Square to create a sudden void in the player, to make them think they'd have acted differently were they to know it was coming.

"When thinking about a modern take on a powerful evil, we came up with the idea of a corporation"

There are more surprises besides, though. A major plot point some way into the game sees the threat level raised significantly as giant creatures, a super-boss motif of the series known as Weapons, march into the overworld and heighten the drama of the closing act. The Emerald and Ruby Weapons are especially tough to beat, yet incorporating these powerful entities as part of the Sephiroth storyline imbued them with a new importance. Kitase explains why the team opted to do this: "In all *Final Fantasy* games, we always put in very powerful monsters in the latter parts of the game to challenge dedicated players and to deepen the gameplay experience, enhancing the longevity of the title and giving something to do aside from the main quest. We had already got the concept of the Weapons as defenders of the planet for *FFVII* and so decided to tie that together with these play-enhancing features."

But the story, despite forever being the guiding light for the *Final Fantasy* series, was matched by *FFVII*'s immense technical and mechanical advances. Creating a masterpiece of this calibre, with such scope in setting and the jaw-dropping amount of iconography that would define Japanese RPGs from there on, was the product of a talented group of people, sharing a potent creative culture. We asked Kitase about the team's dynamic at the time.

"Before *FFVII* we only really had 2D pixel art designers, but for this project many 3D CG specialists and designers came in from outside the company, leading to an interaction of various working cultures that was very stimulating," he says. "All the in-house designers also started to learn to use CG tools, and we held a lot of seminars and explanation meetings. I personally received instruction in how to use Alias PowerAnimator, and around a tenth of all the character motions seen in the game's event scenes were actually created by me!"

We had to ask Kitase if anything changed in development – and, as it happens, Square had a relatively airtight vision of *FFVII*, with only one change that fans will definitely have noticed. "The only thing that we had to change during development was the level of deformation on the characters. The fact that the characters are depicted at different levels of deformation in the field, battle and CG sections is a remnant of these changes." Whereas field characters ended up being blocky 3D models, the characters in battle had far more detail. As Kitase mentions, too, you can see this difference in CG movies – some depict the characters in blocky form, while others, like Sephiroth before the flames of Nibelheim, are more impressively realised. It's a curious inconsistency, but of course forgivable in the face of the finished product's other achievements.

The locations have aged better, thanks to the heavy use of prerendered backgrounds. Yet part of *Final Fantasy VII*'s appeal to long-time fans was the introduction of a fully 3D world map. Despite the cinematic touches present in other parts of the experience, the world map was seen as an updated version of the SNES overworld. "This part of the game was not actually all that much of a challenge," says Kitase. "It goes without saying that, at the time, creating data for a 3D map was hard work, but for better or worse we decided to do the map along pretty similar lines to a 2D world map from the *Final Fantasy* games of the Super Famicom era, so there were not a lot of problems with the overall vision."

THIS PLANET AS MY VESSEL

With insight from Final Fantasy VII's art director, Yusuke Naora, we pick out key locations from the story

DEVELOPER COMMENTARY

Forgotten Capital

"As this was to be the location for some of the most important scenes, it needed to be eerie, spiritual and made up from a more limited number of elements. In order to convey the idea of long dead civilisations, we used the motif of the fossilised prehistoric sea bed, with architecture based on giant shells."

DEVELOPER COMMENTARY

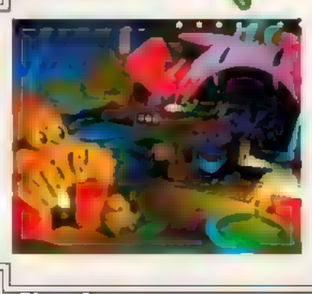
Midgar

"The overall silhouette of Midgar was inspired by looking at a pizza I was eating with friends while I was stuck for design ideas. For the Shinra building, the overall sense of scale came from looking up every day at our company offices and also had features taken from structures where practicality influences the design, such as the bridge of a battleship and industrial furnaces."

DEVELOPER COMMENTARY

Cosmo Canyon

"The concept of this area had been finalised as a valley and observatory like the Grand Canyon, so I had the designers put in more of a medieval feel, with fantasy elements such as the clockwork 'cosmic spheres' planetarium and the gyroscope compass."



DEVELOPER COMMENTARY

Gold Saucer

"As there were a lot of mini-games in the title, I set the question of, 'What would an amusement park in this world be like?' and made sure everyone had fun when designing this area."

☐ Junon
A port town that is also a military base, Junon is attacked later on by Sapphire Weapon, where the giant Junon cannon ceremoniously takes it down.

☐ The Northern Crater
This is where Jenova landed about 2,000 years before the start of the story – a creepy, expansive crater where the climax of the game takes place.

☐ Nibelheim
As more observant players will know, after Nibelheim was burnt down by Sephiroth, the entire town was rebuilt by Shinra and the citizens replaced with its employees in a cover-up.

☐ Costa Del Sol
An utterly bizarre, Spanish-style holiday town with a relaxed atmosphere, players could later buy an overpriced house in this pleasantly different part of the world map.

☐ Gongaga
This sad little town is the location of an exploded Mako reactor, with the citizens mourning their lost. Like a sister town of Nibelheim, in a strange way.

☐ Wutai
A more culturally differentiated locale to everywhere else, Wutai is the sole town on the far western continent, and marks the only location where the heroes team up with the Turks.

☐ Corel
Barret's hometown-turned-post-Shinra-wreck, this is where you can catch the lift to the far more jolly Gold Saucer. There's a ruddy superb chase sequence here later in the game, too.

☐ Rocket Town
Built around a launchpad, this is where one of the more interesting characters, foul-mouthed pilot Cid Highwind, hails from. It's a cheerful moment when they finally get the rocket into space.

» Aerris is the most innocent character in the story, and remains massively popular with fans.

Instead, the team had to spend more time worrying about the individual locations themselves, which were significantly more imaginative than their cartridge-based forebears. "It was actually a lot harder and took much more work realising the fully rendered backdrops for the towns and dungeons, as nothing like these had ever been done before at the time. Having said this, the world map in *FFVII* did play a very important role in the game. After the first part, which is spent in the oppressive and cramped environment of Midgar, the feeling of liberation and freedom at the moment when you step out onto the world map is one of the game's most memorable highlights." That's completely true, and this was a stone's throw from making it into our list of favourite moments. *FFVII* progressively puts more power in the player's hands through the way they interact with the world.

Random battles would remain part of the series, but as directed by the SIGGRAPH presentation, the actual look of them marked an exciting leap between generations. "We had decided on the idea of battles in 3D, with the camera panning and zooming around the action, from before beginning development on *FFVII*. In 1995, we created a prototype game based on doing the battles from *FFVI* in 3D and showcased it at the SIGGRAPH convention that year. This test game was made with an eye to perfecting the idea for the battles in *FFVII*."

Aided by the straightforward yet endlessly customisable Materia-based ability system, as well as visually extravagant Limit Break attacks, the combat in *Final Fantasy VII* would never become a chore. This title also saw the best work of composer Nobuo Uematsu, building on his incredible music in *FFVI* with a series of stunning and highly memorable themes and leitmotifs. Any poignant, dark or pleasant instance is helped along enormously by his work, and he made an easy collaborator for Square. "We basically just showed Mr Uematsu the character designs and the scenario, and had him familiarise with the overall themes and images of the game before letting him loose. There were no specific detailed requests, and he was allowed to create the score comparatively freely," says Kitase.

"It took a lot of work realising the rendered backdrops, as nothing like them had been done before"

While HD technology and high-capacity storage media has let Square Enix realise the most elaborate of visions with *Final Fantasy*, there is something pure about the seventh game. It's such a well-rounded experience that it's obviously the product of a developer at a peak of creativity. Being the first *Final Fantasy* released in Europe, and armed with a slightly misleading marketing campaign that focused on FMVs over gameplay, it turned a historically marginalised genre into an international phenomenon.

That's why there's always talk of a remake. Yet gamers clamouring for this must surely realise the potential for disappointment – *Final Fantasy VII* was a product of the CD-ROM era, and everything was built on that foundation. To try to replicate that in today's HD landscape would be a fun curio, sure, but we're almost certain that it wouldn't surpass the original.

Still, the constant talk of revisiting the game is a testament to gamers' attachment to this world, to these characters, and to the themes of identity, life and death that no other entry in the series has matched. It is a masterpiece, born in the midst of Square enjoying the technological revolution laid before it, and justifiably becoming synonymous with the PlayStation platform. That long-anticipated wait for a remake will shortly become reality as Square Enix has already shown off work on its reboot of the classic game. Whether it manages to surpass the original remains to be seen, but we can't wait to find out.

Special thanks to Roxana Etemad for her huge amount of help with this feature.

Constantin Jupp
Assistant producer, Media Molecule

"***Final Fantasy VII*** made me realise that games were so much more than just running or shooting or fighting. Far from mindless entertainment, they could actually stir emotion within the player. It's the game that inspired me to join the games industry and help create those experiences for others."

» [Top right] The Forgotten Capital is a bizarre locale, and is still the most atmospheric part of this world. » [Bottom left] Dressing Cloud up as a woman to impress Don Corneo is still bloody weird.

The Anatomy of CLOUD

He carries a big sword and always seems miserable, but just how much do you know about Final Fantasy poster boy Cloud?

SWORD & SORCERY

Though there is a whole load of swords for you to equip to Cloud that you gather throughout the game, none are as iconic as his famous starting weapon, the gigantic Buster Sword. It'd never work in real life, of course, but then never would Cloud's unfeasibly pointy hair. Besides, *Final Fantasy VII* is a game about a half-alien madman trying to destroy the planet being stopped by a magic wielding team that includes a man with a gun for an arm and a talking cat. In other words, forget about realism and embrace that badass sword.

TROUBLE & STRIFE

A poster boy for angst, Cloud's sullen demeanour early on in *Final Fantasy VII* has earned him a not-undeserved reputation as being a bit of an arse. As the game progresses, however, Cloud softens up a little as we get to know his backstory and the arrogant, uncaring front he puts up is broken down. Cloud begins as a former member of elite military unit SOLDIER, working as a mercenary for freedom fighters AVALANCHE. However, there's more to Cloud's past than meets the eye…

JACK OF ALL TRADES

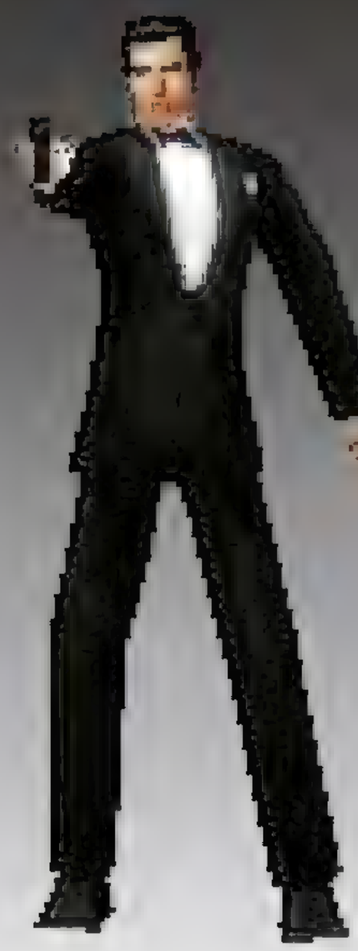
Cloud is unquestionably the best character in *Final Fantasy VII* from a gameplay perspective, in part because he's an all-rounder with high stats in all categories. He's got good attack power, meaning you'll probably want him in the front row to dish out damage. But he's also the second best magic caster after Aeris, so you can focus on magic with him if you choose. If that's not enough, Cloud's got the most powerful Limit Breaks in the game, his signature move and final Limit Break being the devastating Omnislash.

SUPERSTAR

As well as being the protagonist of *Final Fantasy VII*, Cloud has made a number of other appearances. He appeared in the *Final Fantasy* themed fighting game *Dissidia Final Fantasy*, *Kingdom Hearts* and *Kingdom Hearts 2*, *Theatrhythm Final Fantasy* and *Chocobo Racing*, amongst others. He's even made an appearance in a film (albeit a rubbish one) in the form of *Final Fantasy VII: Advent Children*.

100 GAMES TO PLAY BEFORE YOU DIE

GOLDENEYE



21 years ago, first-person shooters were for PC gamers and Rare made very pretty platformers. Then GoldenEye came along and changed everything. We gather together four of the original development team – Dave Doak, Steve Ellis, Karl Hilton and Graeme Norgate – to tell us how they turned a film licence for a mysterious new console into the definitive console FPS. Paul Drury plugs in the joypads...

» Proof of the amount of work the boys put into *GoldenEye*'s presentation.

TWYCROSS BOARD OF GAME CLASSIFICATION

This is to certify

GoldenEye 007

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(c) 1997 Eon Productions Ltd. & Mac 8, Inc.

PRESIDENT
James Bond
VICE

4

Suitable only for 1-4 persons

James Bond theme by Monty Norman.
Used by permission of EMI Unart Catalog Inc.

Pub bores the world over be silenced. We know who the best Bond is. It's Roger Moore. Wait, come back. We have empirical evidence.

"Right near the end of development", explains Dave Doak, "a guy came in from EON who owned the Bond licence and saw we had put in Connery, Dalton and Moore as well as Brosnan. We thought it would be great for marketing and even some screenshots went out with Connery in his white tuxedo. Then an edict came down from on high and we had to get rid of the other Bonds, so on the day we had to take them out we played this epic deathmatch – first to a hundred kills – which went on for about three hours. Mark Edmonds played as Moore and won by one kill. It went down to the wire..."

GoldenEye's enthralling multiplayer shootouts were thus denied an intriguing proposition. But then the game was never conceived as a four-player grudge match. In fact, it wasn't even conceived as an FPS at all in the beginning. Karl Hilton recalls the first mooting of the project: "I started at Rare in October 1994 and they had me modelling cars and weapons to see if I could do it for no particular game. Martin Hollis wandered in – he tended to float around – and said he was leading a team to do a *Bond* game. I'd been highlighted as someone who might be interested and of course I was, but in the back of my mind I was thinking, Oh God, a film licence. The previous ones had been 2D *Robocop* or

"The first thing I did was model the gas plant. You could follow a route through the level like in Virtua Cop. Then we decided to take it off the rails" KARL HILTON

IN THE KNOW

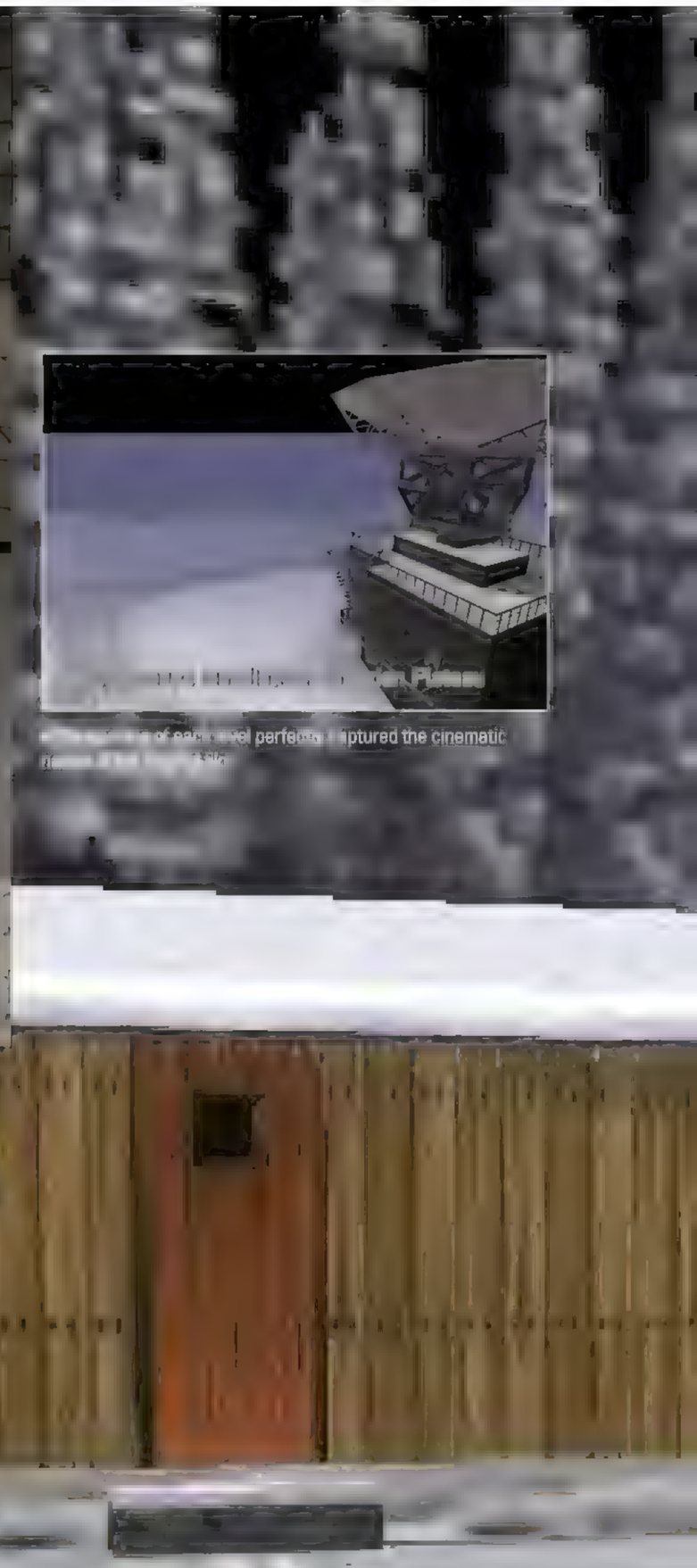
» **PUBLISHER:** NINTENDO
» **DEVELOPER:** RARE
» **RELEASED:** 1997
» **SYSTEM:** NINTENDO 64
» **GENRE:** FIRST PERSON SHOOTER

DEVELOPER HIGHLIGHTS

TIMESPLITTERS
SYSTEMS: PS2
YEAR: 2000

SECOND SIGHT
SYSTEMS: PS2, XBOX, GAMECUBE, PC
YEAR: 2004

HAZE
SYSTEMS: PS3, 360, PC
YEAR: DUE 2007



We've lost count of the many hours spent playing *GoldenEye*'s superb multiplayer

PLAY AND LEARN CHRIS

"We didn't know whether multiplayer was technically possible", admits Steve. "It was an experiment that didn't begin until May... and the game came out in August! I trawled through the code to find anything that referred to the player and made it work for more than one. I got it going for two first and then frame rates meant it couldn't work for all levels. Karl went off and built the Complex and Temple and had strict instructions not to put more than so many polygons and textures on screen. Then it was just a case of playing it.'

Graeme: "I first saw it as four-player split screen and said, 'Wow Martin, you've got multiplayer!' He was, 'Oh no, no, you didn't see that, it's a complete secret...' The concern was that half the coding team was being allocated to some frivolous thing that might not work. The Stampers had actually said, no multiplayer. Chris Stamper wondered that if you had four view ports on screen so you could see what others were doing, how could it possibly be fun?!'

Batman games and they were generally awful. It seemed a risky project."

Initially, the intention was to do a 2D side-scrolling platformer for the SNES, a genre that Rare excelled in after the seminal Donkey Kong Country, but Hollis insisted the game should be in 3D and produced for Nintendo's enigmatic Ultra 64, which was still in development. He also made explicit his design model: Sega's lightgun arcade hit *Virtua Cop*.

Karl: "When I got involved, the first thing I did was model the gas plant. We put a spline (sic) through the level so you could follow a route like in *Virtua Cop*, but it didn't go further than that. We decided to take it off the rails. Some of those early builds had bits missing because you'd never be able to see them and I remember going back and filling in the holes."

GoldenEye was forging its own path, a departure from the Rare games that had gone before. When you consider that this was the first project for eight of the nine team members, that was perhaps to be expected. They may have been inexperienced, but they were unfettered by expectations of what a game could and couldn't be. They turned naivety into ambition and the enforced isolation of this happy band – "Rare organised teams into separate barns and you only had keys to your particular cell block", quips Dave – meant that the newbies on the team had to find their own way.

"Because it was most people's first game", explains Graeme Norgate, "we did things we might not do again because it was too much work. We didn't take the easy route. If something sounded like a good idea, it was like, 'Yeah let's do it!' The world was our oyster! Only afterwards would you find it was a world of pain."

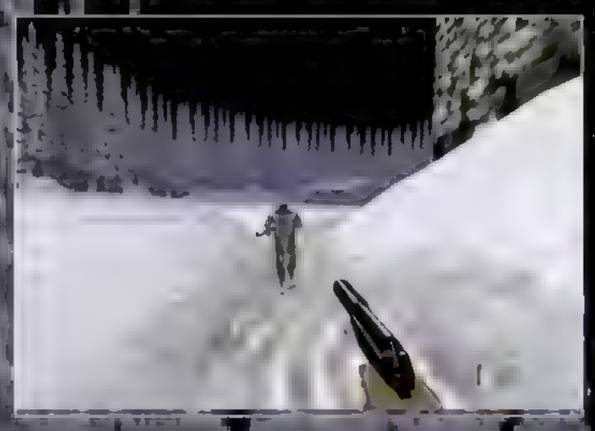
At least it was a world of their own making. "It was untrammelled by arseholes", explains Dave. "Nowadays, publishers get people who don't know about games to run projects. We hadn't worked on a game before but the difference was we were having to do the work. Our wish-list of features would be things we knew would be good and we could do. There was some smart hiring and cherry-picking of people. We all had ambition and were hardworking.

> "GoldenEye's not your University project' Tim Stamper told us one day! As heads of Rare, the Stampers probably had to make a lot of excuses"

That's how he managed to get that much content out of us."

Martin also encouraged the team to draw on their love of the *Bond* films they had all grown up with. He recognised the inherent appeal of playing as the suave hero who had defined cool for so many aspiring young agents over the preceding decades. No longer would you simply be a floating gun as in *Doom*. Now you were England's deadliest and coolest weapon.

Karl: "I remember the first time we got Bond's hand in with the watch. We



» Limited shooting and careful movement enabled you to make your way stealthily through many levels.

» The sniper rifle, a joy to use and essential for getting the drop on the enemy.

scanned it in and modelled it up and it had the cuff of the white tuxedo. I thought, hey, I'm James Bond! And then we put that thing in where the camera flies into the back of Bond's head at the start of a level. It tied you in."

A key part of that appeal was the infamous Licence to Kill. *GoldenEye* was a first-person shooter of course, but the decision to recognise body-specific hits introduced a new subtlety to the genre. Shoot a guard in the leg and he reacts differently to if you blasted him in the chest. Each part of the body was given a weighting, expressed as a fraction. Hit a limb or the torso and your enemy would be pushed closer to a damage count of one and death. Or you could go straight for the head. A bullet in the brain equalled one. Instant death. One-shot kills became very popular.

Headshots were not only disturbingly satisfying though. They created a whole new way to play. Dave explains: "The way detection worked was very simple but fundamentally changed the set-up. Whenever you fired a gun, it had a radius test and alerted the non-player characters within that radius. If you fired the same gun again within a certain amount of time, it did a larger radius test and I think there was a third even larger radius after that. It meant if you found one guy and shot him in the head and then didn't fire again, the timer would reset. It wasn't realistic but it meant the less you shot, the quieter you were, the less enemies came after you. If an NPC that hadn't been drawn and was just standing in a room waiting was alerted by gunfire, it would duplicate itself and one went to investigate. You can see it happening sometimes – if you go to the right place and make a noise, you see more enemies spawning."

Stay hidden, keep quiet, make every shot count... almost inadvertently, the team had invented stealth gaming. Of course you could still go in all guns blazing, but once players got to grips with the sniper rifle and realised that enemies had distinct blind spots to exploit – they could only 'see' you if they could walk to you in a straight line, meaning you could peer out from behind cover or line up a fatal headshot through windows – the sneaky approach was not only very appealing, it was vital in successfully completing many of the game's trickier missions. It was a surreptitious tactic that emerged naturally, rather than being pre-determined.

Karl: "When we had plenty of film material, we tried to stick to it for authenticity but we weren't afraid of adding to it to help the game design. It was very organic. Dave would come in and say he needed an extra door and a room somewhere and we'd add it in. Back then, it was so much quicker. It'd be half a day's work to add in a new corridor and a room."

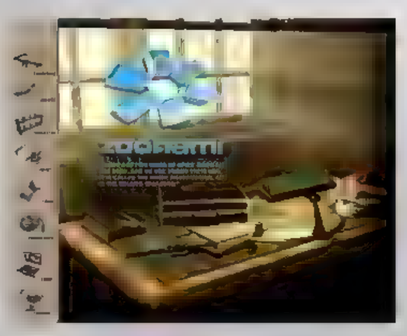
This sense of freedom to try new things, to experiment with level design, play it exhaustively and let the experience determine what direction development would go was crucial to how the team worked. They weren't enslaved to a rigid design document, meaning everyone could contribute to game design. Nothing was set in stone. Not even the hardware.

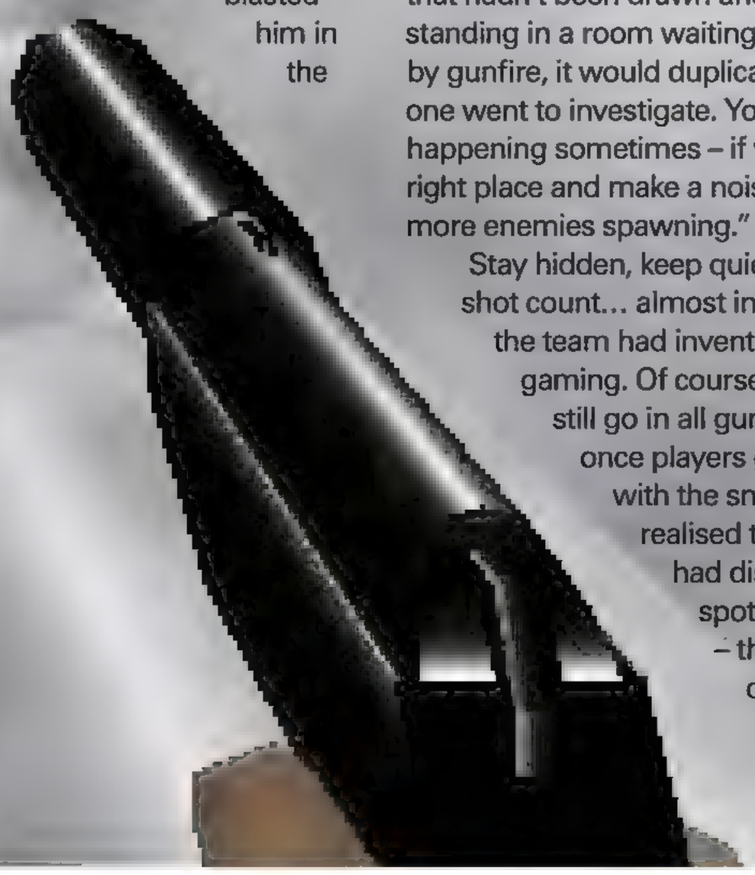
Considering how the finished *GoldenEye* feels so suited to the N64, it's easy to forget the machine didn't exist for the first year and a half of its development. The team was using SGI Onyxs, hugely expensive Silicon Graphics machines, guessing at what the specs of Nintendo's new console might be and using a butchered Saturn controller to playtest. As it turned out, when they finally received the finished console they were pleasantly relieved. Despite costing a fraction of the SG workstations, fortunately Nintendo had come good on most of

M SPEAKS

We managed to catch a word with the man responsible for overseeing the *GoldenEye* project, Martin Hollis. So, having assembled his team, were they a handful to manage? "That's a cheeky question", replies Martin, "and I like it. I'm not a terribly dictatorial manager. Oh they were fabulous because we all fitted together so well. We did have a shared vision, which happened naturally and everyone knew what *Bond* was about which helped us to get there. So no, they weren't difficult to manage. Now if you asked my management about me, they might tell a different story..."

Martin continued to lead the team as they began work on *Perfect Dark*, but left Rare in 1998 to set up his own company, Zoonami. Visit its website www.zoonami.com for a transcript of the fascinating speech he gave at the European Developers Forum in 2004 on the making of *GoldenEye* plus details of the company's recently released game, *Zendoku*. "Think Sudoku meets ninjas", he says helpfully. Martin's favourite Bond girl is Jane Seymour and he assures us he could have triumphed over his former colleagues if he'd been part of the developer deathmatch and we've convinced him to be a future castaway for *Desert Island Discs*. Result.





FREE AT LAST

While *GoldenEye* was instrumental in popularising the console FPS and introduced a myriad of new ideas to the genre, the game has a very tangible legacy to those that worked on it. Steve: "Free Radical Design was set up on the back of *GoldenEye*. It led us to signing a deal in the first place. It opened doors for us to do what we've gone on to do." FRD has gone on to become a major creative force in FPS development, producing the *TimeSplitters* series and currently working on *Haze* for PS3 due out later this year. Success has seen the Nottingham-based company grow enormously and with 160 employees and relationships with publishers such as EA, Ubisoft and LucasArts, have the boys ever considered going back to *Bond*? Karl: "It's been suggested at times by people, but publishers have to pay so much for the *Bond* licence it puts them off. Actually, it would be good to do *GoldenEye* again with new technology and do things we wanted to first time." Before we all get too excited though, he adds: "If FRD did a *Bond* game I'm sure it would be good, but there's no GoldenEye magic dust you can sprinkle on."

its promises. "The processor ended up being three quarters of what they had told us", explains Steve. "We had to cut the textures down by half."

Unfortunate, but not a disaster. And they coped with the reduction in admirable retro fashion. "A lot of *GoldenEye* is in black and white", admits Karl, rather surprisingly. "RGB colour textures cost a lot more in terms of processing power. You could do double the resolution if you used greyscale, so a lot was done like that. If I needed a bit of colour, I'd add it in the vertex."

As their semi-colourful *Bond* world was taking shape on the small screen, the film it was based on was nearing completion. The team had received the script very early in development and visited the set at Leavesden Studios, housed in an old Rolls Royce factory, half a dozen times. "We had really good access", says Karl. "We could walk anywhere and photograph what we needed. After the first few visits, I realised we needed textures. I started taking photos of walls!"

Visiting the filmset undoubtedly helped cement the game world in the minds of the team, but it also reminded Rare that the clock was ticking. While trying to release the game in tandem with the film had never been considered a viable proposition, the thought of it not appearing until the next *Bond* movie hit cinemas instilled an understandable sense of urgency.

Steve: "'It's not your university project' Tim Stamper told us one day! As heads of Rare, the Stampers probably had to make a lot of excuses. That's what we have to do these days. Why isn't it out yet? Why is it crap? We never had to answer those!"

Perhaps the Stamper Brothers' greatest contribution to *GoldenEye* was fending off such enquiries and allowing the team time to develop a 3D game in what were still uncharted waters. Being able to play *Mario 64* on the new console was a key influence.

Dave: "When *Mario* arrived it was clearly a step forward. Martin was obsessed with the collision detection, which was obviously doing it in 3D and *GoldenEye* was essentially using a 2D method. And our story was only about shooting stuff – we needed other things. We started putting in objectives, like meeting people in a level and back then that involved some complicated AI. Finding Boris, guiding him through and making him decode something… that wasn't easy! Other levels, you could hear the barrel being scraped – collect five arbitrary pieces and go here, but *Mario* had plenty of that shit, which is pretty boring. We punctuated it with stuff like go and blow this thing up! Like the canisters at the end of Arkhangelsk. It's in the film and we could have just said go here and press X – Karl had built that in the background but it wasn't going to explode. But wouldn't it be nice if it did? So the canisters became a 'prop'. A bloody big prop. And the explosion had to be big enough to mask you switching one object with another. But then if it's a gas plant, shouldn't we have gas? We can't do f*cking gas, but we have got fog… maybe we could change the fog settings? Can we use that more than once? Maybe in the Egypt setting?"

For a game with more than its fair share of wanton destruction, the team became remarkably good at recycling. The radar on multiplayer mode is actually an oil drum texture, which explains the cloudiness on the right, and sometimes whole levels were created with the detritus they had to hand.

Karl: "As the engine got better, we were very good at reusing things. We decided we'd do the meeting room from *Moonraker*, which I just loved. We couldn't do it round, that was just too expensive, but we did a square version and linked it with being under the shuttle. Dave said those chairs just have got to fold down like in the film so we did it with door code. I remember one chair always folded wrong, but it would have taken so much coding to get it right, it was like, hey, leave it as a bug! The shuttle was made from reused satellite textures and to make it take off, we used grenade explosions. That whole level is something of a big hack job, but it's one of the nicest looking."

GoldenEye was always good at giving you the big picture, from the dramatic bungee jump down Byelomorye dam at the opening to the final shoot out on

» Ahh, the beauty of the doorway. it provides a perfect bottleneck to take out enemies.

» (From left to right) Karl, Steve and Graham were more than happy to revisit *GoldenEye*'s multiplayer when **Retro Gamer** turned up with its N64.

» Here's the man himself, tuxedo noticeably absent.

the Antenna Cradle, but much of its enduring charm is in the detail. Bullet holes in glass, graceful forward rolls, hats being blown off heads and the knocking knees of terrified scientists.

"Those are Duncan Botwood's knees", laughs Karl. "He wasn't a professional actor, he was one of the team! There was only one big motion-capture shoot and we realised someone was going to surrender at some point, so it was, 'Put your hands up and shake your knees'. Then it would be, 'Stand there and we'll push you over'. I think we must have breached Health and Safety quite a lot..."

Graeme: "Duncan's line was, 'I had to die a million times for *GoldenEye*'. There were plenty of times when we'd get him to close his eyes and he didn't know when he was going to be pushed. He went through a lot for the game. There was blood."

It wasn't the only occasion when the nearest warm body was put to good use. Alongside the faces of Pierce Brosnan, Robbie Coltrane et al, Bea Jones scanned in virtually all the staff at Rare. At the start of each level, five faces from the extensive collection are picked at random and plonked on the bodies of your adversaries. All the development team are in there and Karl remains rather proud of the manly scar added to his own mug. More cameos were to follow, explains Steve.

"There are a few monitors in the game – one has Dave in sunglasses and a Russian hat Karl had bought in Berlin, there's one with Mark in a bowler hat on a skateboard and another has Karl doing a Python silly walk. We were just trying to make the monitors seem alive."

A notable omission are the Stamper Brothers, who declined the opportunity to have their faces featured in the game, perhaps wary of giving employees the chance to shoot their bosses at close range. But the brothers' faith in the project, protecting the team from outside interference and giving them the space to produce the best game they possibly could, means they can hold their heads high. So many of the things that make *GoldenEye* special – the bonus Aztec and Egyptian levels, the AI that sees guards dashing for alarms and the wonderful multiplayer mode (see boxout) – were the result of not having to rush out a product to meet a demoralising deadline.

Steve: "The reason it turned out so well is that no one was standing over you saying 'you don't need to do that, move on to the next bit. I was on the explosions for a month and I didn't have someone telling me I'd had a week and that was enough. If there had been, the game might have been out on time."

But it wouldn't have been the game it turned out to be. The entire team flew out to E3 in 1997 to present a 99 per cent complete version of *GoldenEye* and while the game was well received, no one predicted the phenomenal success that followed. A staggering 8 million copies were sold worldwide and it remains the biggest selling N64 game in the USA, outdoing *Mario 64*, *Ocarina Of Time* and *Mario Kart*. "Actually, I was concerned it wouldn't be able to compete with *Turok*", admits Karl. "That looked better and had a better frame rate... and dinosaurs."

Laughter all round and an appropriate juncture for the team to pick up their beads and revisit the game that marked their entry into the industry. As Steve plays through the opening level, memories are triggered like sticky mines. How Martin had done a 3D gun barrel that had to be dropped due to frame rate issues; how code had been written to let you drive the van, but it caused too many problems if you got the vehicle stuck in a dead end; how the unreachable island you can see far in the distance from atop the dam originally had a solitary guard patrolling it; how they'd had to label certain wall textures as 'floor', so guards could 'see' you, which meant they would occasionally leap out of bunkers inexplicably. "At one point, we were going to have reloading done by the player unplugging and re-inserting the rumble pack on the controller", remembers Steve. "Nintendo weren't keen on that idea and I think it might have affected the pacing a bit..."

» The name's Bond. James Bond

So to the main event – a ten-minute deathmatch – and as our four agents trade headshots and insults, they start to reel off the things *GoldenEye* pioneered. The sniper rifle, the gun disconnected from the camera, the civilian AI, the 3D explosions, the environment mapping (look closely at a shiny surface and you'll notice a low resolution reflection of your surroundings), body-specific hit reactions and the tasty option of dual-wielding weapons. "Didn't *Halo 2* invent that seven years later?" chuckles Karl. The list goes on, yet more fundamentally, they proved that a story driven FPS, a genre previously confined to PCs, could triumph on a console. Countless others have followed, but *GoldenEye* remains a benchmark.

And the winner? Appropriately enough, Steve, the creator of the multiplayer mode that everyone loved, nicks it by a single critical kill. Then the defeated trio realise he's been playing as Oddjob, whose diminutive stature bestows a distinct advantage and the room echoes with cries of cheat and demands for a rematch.

GoldenEye: still inflaming passions twenty one years on.

» Dave Doak discovers that he still has that multiplayer magic. Just not enough to beat Steve Ellis.

"For the motion capture, we'd get Duncan to close his eyes and he didn't know when he was going to be pushed. He went through a lot for the game. There was blood"

GRAEME NORGATE ON WHY THOSE GUARDS LOOK LIKE THEY'RE REALLY FEELING IT

As the fifth numbered instalment of the franchise hits the shelves, Steve Holmes journeys to Shadow Moses to take a look at the bevy of groundbreaking features that made up one of the most special videogames ever made

METAL GEAR SOLID

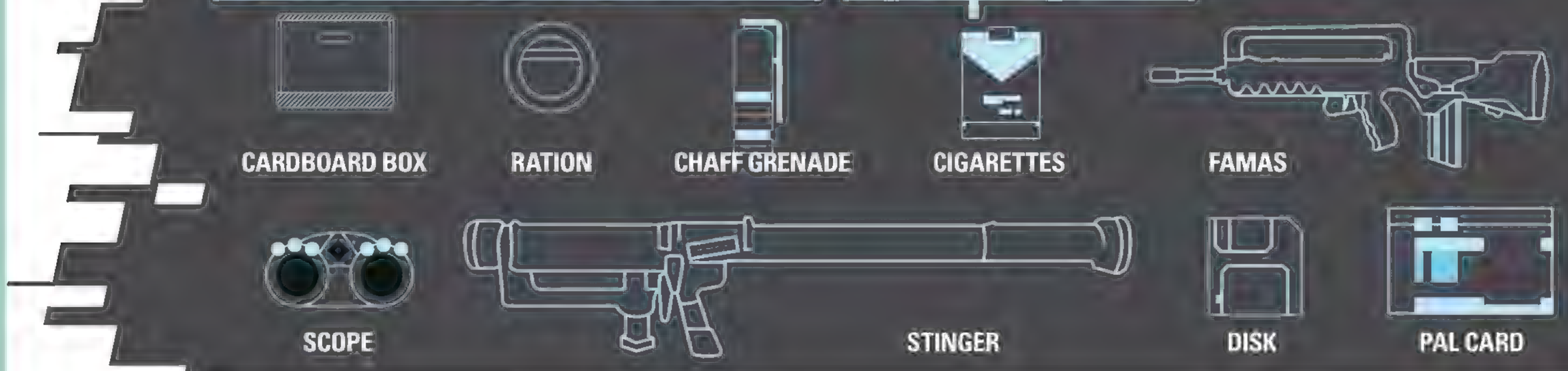
There absolutely had to come a time when videogames became like movies. We're desensitised to it now, having experienced the explosive set-pieces of *Uncharted*, the masterful pacing of *The Last Of Us* and the grandiose narratives of games like *Heavy Rain*, but another game hit all three of these buttons and did it a long time ago. In *Metal Gear Solid*, achieving a cinematic effect didn't reside solely in graphics, voice acting or cinematography, but in a glorious cocktail of all of these individual facets and more that resulted in what is still one of the greatest overall presentations of all time.

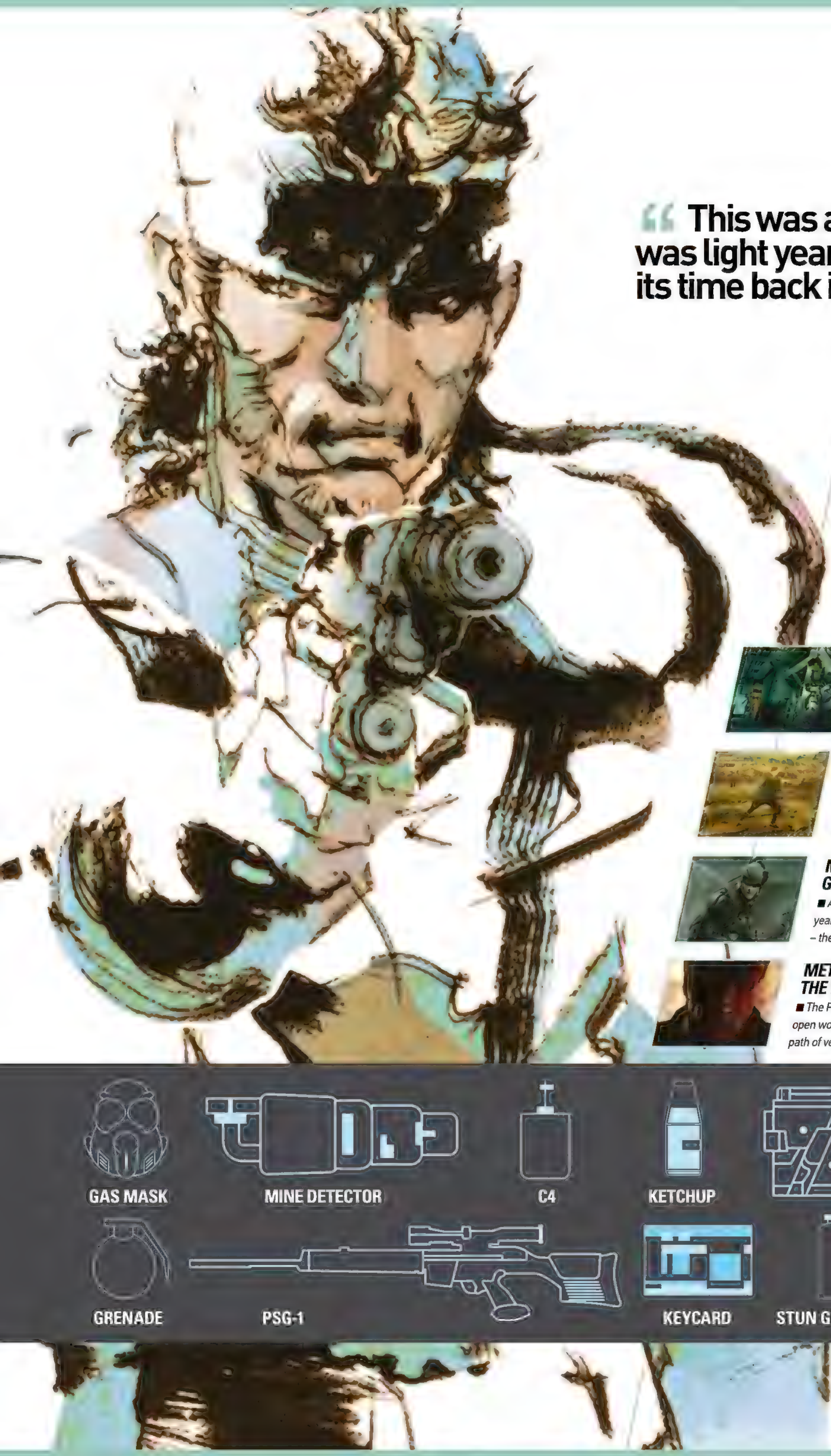
Coming off the back of two *Metal Gear* titles for the MSX, Hideo Kojima and his team had endeavoured to develop *Metal Gear 3* for the 3DO in the mid-Nineties after the release of *Policenauts* for the ill-fated multimedia console, but development was soon shifted to Sony's PlayStation. The intention was to build a truly cinematic stealth experience that would garner the reputation of being the greatest PlayStation game ever made, and looking back at it now – to play it again, slowly and thoroughly, after all these years – really does encourage that way of thinking. This was a game that was light years ahead of its time back in 1998 and still offers a more accomplished and considered experience than most triple-A games since.

From the very start, Kojima's desire to create a videogame that bore all the hallmarks of a movie is apparent, as Solid Snake infiltrates Shadow Moses island to prevent a terrorist cell from launching a nuclear weapon. The terrorist group, made up of ex- ▶

PIXEL PERFECT

One of the best things about Metal Gear Solid was its vast array of weapons and items you could use





> This was a game that was light years ahead of its time back in 1998

Les Enfants Terribles

The games that followed

METAL GEAR SOLID 2: SONS OF LIBERTY *2001*

The most derided MGS game caused quite the stir when it was released, by shelving Snake as a protagonist for new guy Raiden.

METAL GEAR SOLID 3: SNAKE EATER *2004*

Many people consider Snake Eater to be the best game in the series. The mechanics were miles ahead of anything on PS2.

METAL GEAR SOLID 4: GUNS OF THE PATRIOTS *2008*

After learning that he has little more than a year to live, Snake takes on one final mission – the assassination of Liquid Ocelot.

METAL GEAR SOLID V: THE PHANTOM PAIN *2015*

The Phantom Pain is set in an enormous open world and sees Big Boss embark on a path of vengeance through Afghanistan.

GAS MASK

MINE DETECTOR

C4

KETCHUP

NIKITA

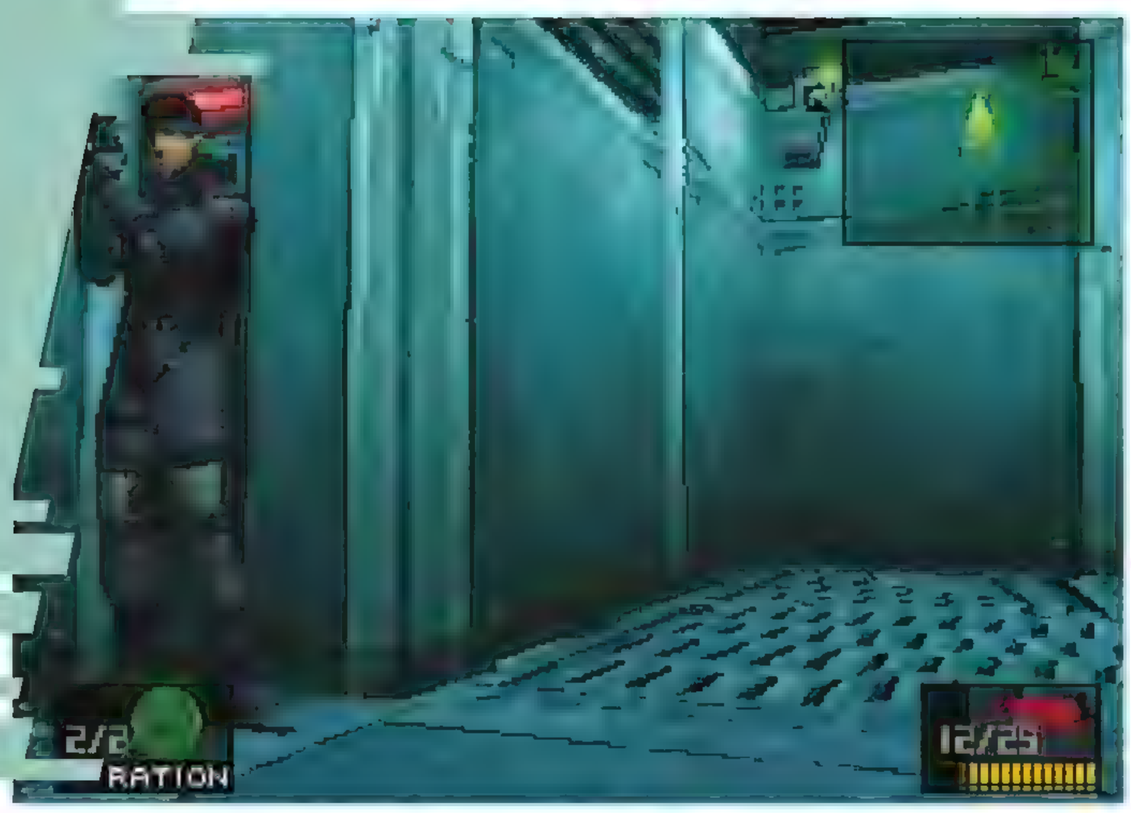
GRENADE

PSG-1

KEYCARD

STUN GRENADE

SOCOM



» Cameras are everywhere, but thanks to your Soliton Radar, they're easy to avoid with patience.

» Much of the story exposition in *Metal Gear Solid* takes place during Codec conversations.

"Even though you're playing from what is effectively a top-down perspective there's a tangible sense of control to what you're doing"

▶ members of the special forces group FOXHOUND, are demanding delivery of the remains of Big Boss, a legendary war hero that Solid Snake defeated with a makeshift flamethrower at the end of *Metal Gear 2*. It's a quintessential action plot, really, and it's only later on that you start to feel the narrative flourish into a web of interwoven plot lines, character relationships and government conspiracy. Only *Metal Gear Solid 3: Snake Eater* has managed this clarity of storytelling since, when you look at the rest of the franchise. As for FOXHOUND, it still stands as a truly memorable rogues' gallery with a varied roster of boss fights that required a different approach and different items to best.

Graphics were considered to be pretty decent back in the day but, alas, as with most polygonal games of that era, it looks rather dated now. This is perhaps the one area in which the game hasn't stood the test of time, but if a better looking version is what you're after then 2004's *The Twin Snakes* for the GameCube has you covered, although this version of the game made quite a few changes and had Snake leaping around like a ninja.

If you can ignore the muddy aesthetic, though, there's a sense of realism in the gameplay

» *Metal Gear Solid* was one of the many killer apps available for Sony's PlayStation.

SECRETS AND LIES

Five of the numerous hidden moments in Metal Gear Solid

DEAD OR ALIVE

■ *After your first scrap with Sniper Wolf, you're interrogated and tortured by Revolver Ocelot. If you submit to torture, Meryl will be killed and you escape with Otacon at the end instead.*

GOOD VIBRATIONS

■ *In this scene that occurs in the midst of Snake's torture, Naomi Hunter offers to comfort him by stimulating the nanomachines inside his body, making your controller vibrate in the process.*

IRRITABLE BOWELS

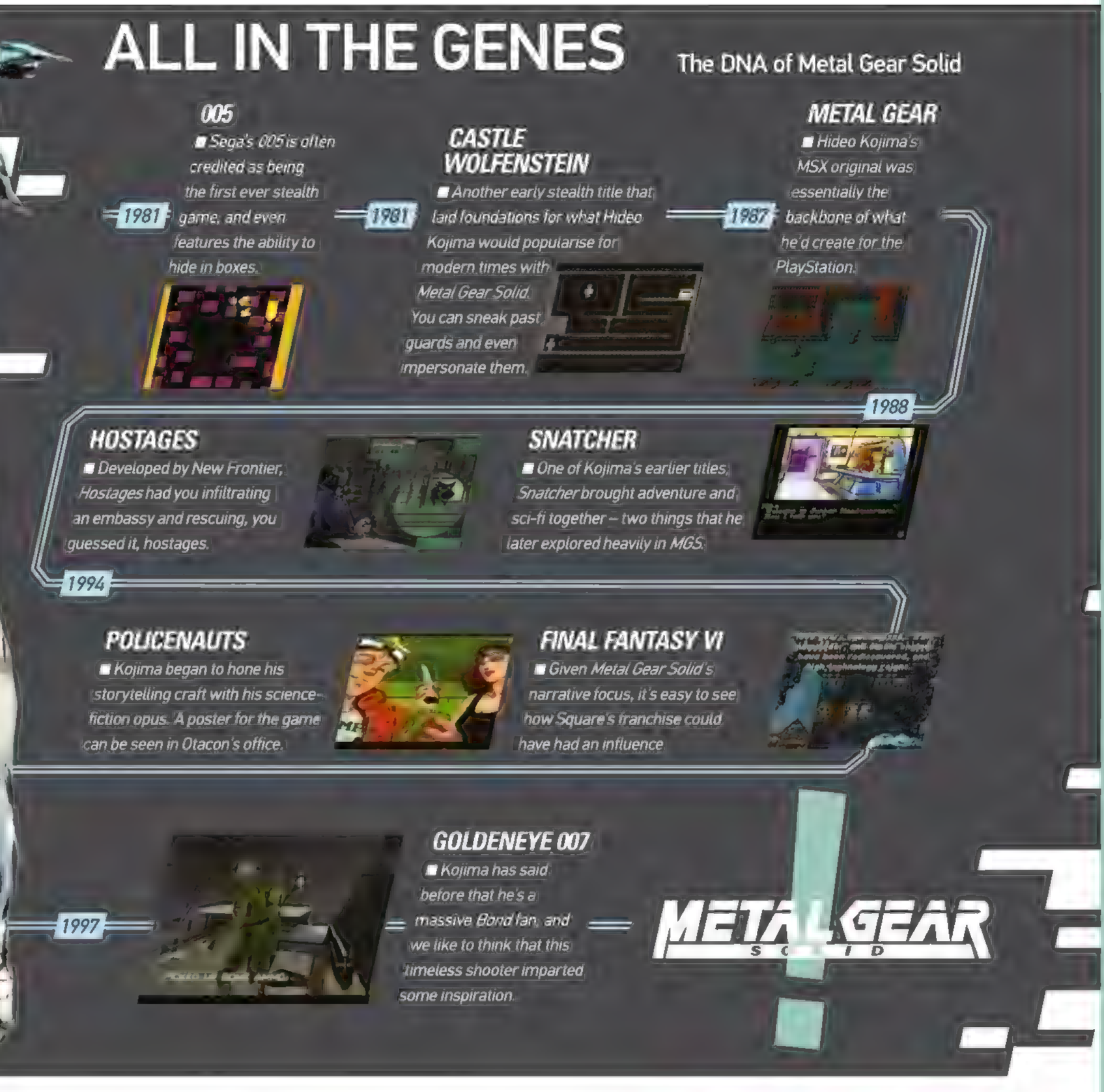
■ *The soldier that Meryl knocks out and subsequently ends up guarding an imprisoned Solid Snake is Johnny Sasaki, a recurring character that eventually marries Meryl in MGS4.*

EGO ATTACK

■ *Psycho Mantis does a great many things when you encounter him, but there's a moment where the screen clips and then fades to black, with the word HIDEO appearing across it. This joke is repeated in MGS2.*

MIND READER

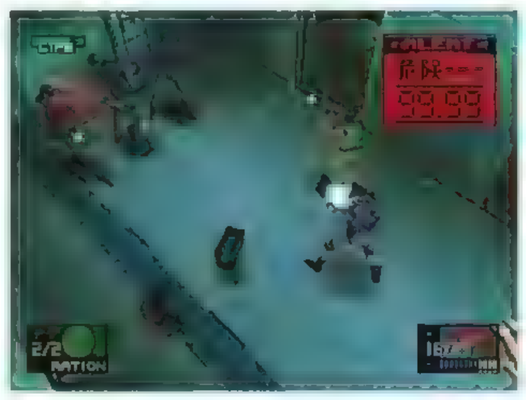
■ *Before the boss fight, Psycho Mantis famously reads your memory card to see how much you've saved and how many times you've died, as well as other games that you've played before. Creepy.*



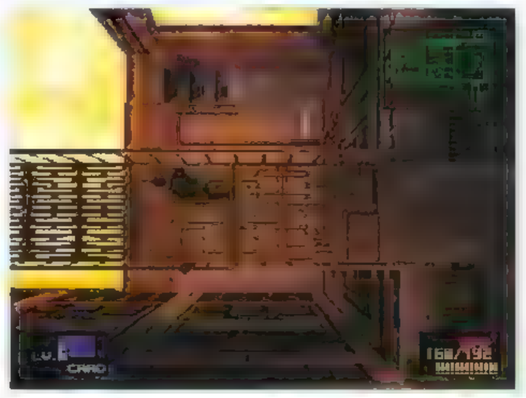
that still holds true today. Kojima and his military advisor, Motosada Mori, worked hard to ensure that the military aspects of the game were authentic, with the use of suppressed weapons, chaff grenades and mine detectors contributing to a more serious military simulation than many of *Metal Gear Solid*'s contemporaries. Obviously, there was a lot there that was exaggerated – nanomachines *aren't* a thing, funnily enough – but the attention to detail remains to be startling. Each weapon feels intuitive, and even though you're playing from what is effectively a top-down perspective there's a tangible sense of control to what you're doing.

And this sense of realism extended to the game's ace in the hole – its stealth. We can remember playing the demo version of *Metal Gear Solid* prior to the game's release and being blown away by the ability to huddle against walls to avoid line-of-sight detection, the way that you could knock on a wall to distract an unsuspecting sentry and the fact that your footsteps left tracks in the Alaskan snow that could be tracked by the enemy. We'd just never seen anything like it before, and although such mechanics are child's play nowadays, they really stood out back in 1998.

Of course, if you wanted to experience complete and utter realism you wouldn't be playing a videogame, and Hideo Kojima, as you'll know if you've played Metal Gear Solid or any of its sequels, understands this better than most directors out there. There are numerous occasions on which there's a nod toward breaking the fourth wall with a little knowing humour, like Meryl shrugging towards the camera when you tread on a mine before Sniper Wolf and the references to pop culture when you're desperately trying to



» In this early confrontation, Kojima forces you to resort to shooting rather than sneaking.

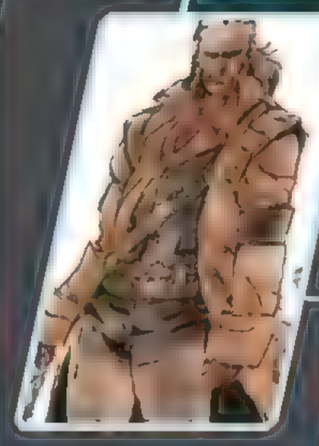


» Environments are pretty varied, considering the fact that the whole story takes place in one location

BOSS RUSH

Pitted against Solid Snake were the ruthless and deadly members of FOXHOUND, a tank, a helicopter and a massive robot. Easy

BOSS 1



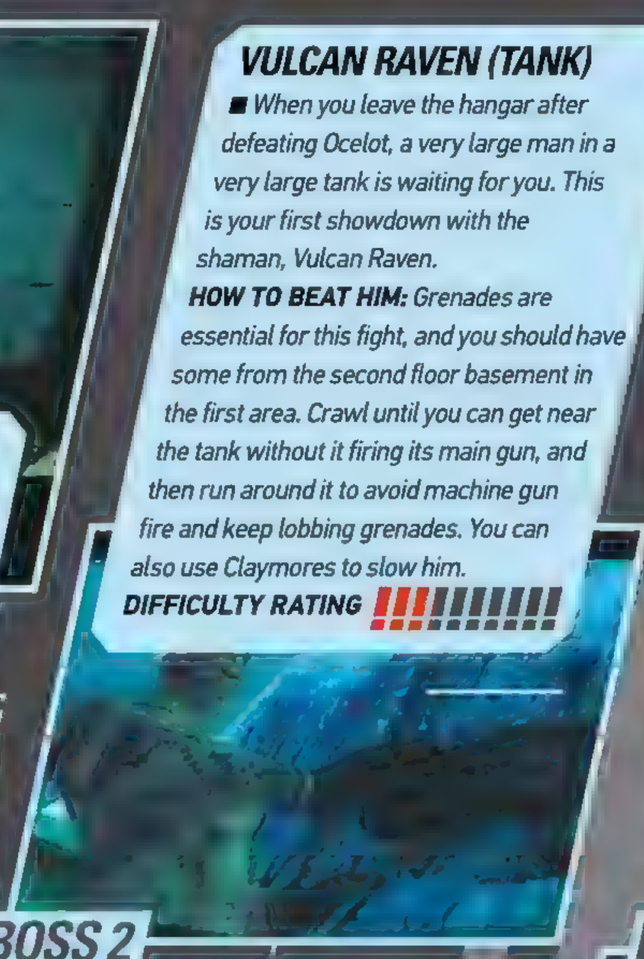
REVOLVER OCELOT

■ *A gun-toting, duster coat-wearing nonsensical old Russian chap, Revolver Ocelot eventually proves to be pretty much the most important character in the franchise later on, yet his appearance here is pretty demure.*

HOW TO BEAT THEM: *As you're in a small room filled with C4, the first thing to bear in mind is not to shoot across the room at Ocelot, but instead pursue him round the edges and pick your shots carefully. Change direction regularly and wait for openings when he's reloading.*

DIFFICULTY RATING

BOSS 2



VULCAN RAVEN (TANK)

■ *When you leave the hangar after defeating Ocelot, a very large man in a very large tank is waiting for you. This is your first showdown with the shaman, Vulcan Raven.*

HOW TO BEAT HIM: *Grenades are essential for this fight, and you should have some from the second floor basement in the first area. Crawl until you can get near the tank without it firing its main gun, and then run around it to avoid machine gun fire and keep lobbing grenades. You can also use Claymores to slow him.*

DIFFICULTY RATING

BOSS 3

GRAY FOX

■ *You hear rumours of the ninja's exploits as soon as you arrive in Shadow Moses and he's not to be underestimated (especially on harder difficulties). Gray Fox is central to the plot.*

HOW TO BEAT THEM: *In the first few minutes of the fight, engage him in fisticuffs – if you shoot at him he'll deflect your rounds. Once he starts vanishing, use Chaff Grenades to mess with his suit and go to town with the FAMAS. Be sure to avoid his plunging attack – it hurts.*

DIFFICULTY RATING

BOSS 4

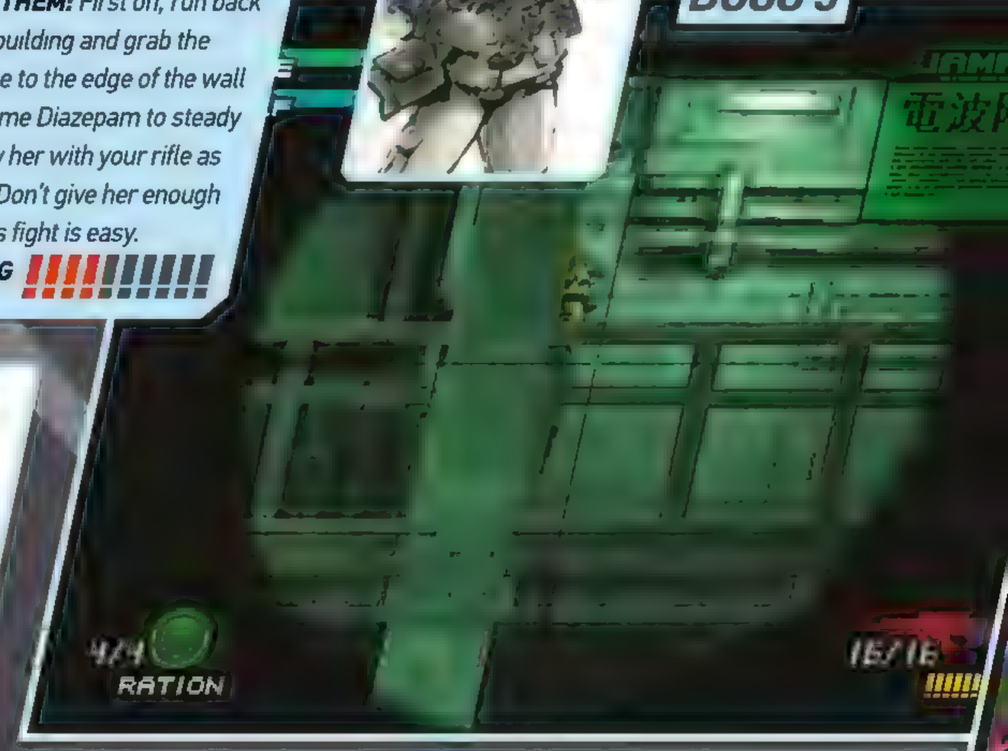
PSYCHO MANTIS

■ *If you've never heard of this boss fight then where have you been hiding since 1998? Mantis is a psychic, and takes control of Meryl to make her try to kill you.*

HOW TO BEAT THEM: *Immediately switch your controller to Port 2 and the rest of the fight should be a doddle. He'll throw all manner of things at you from around the room, but learn the patterns, keep moving and he'll soon topple. It should be a given that you're best off punching Meryl rather than shooting at her – you don't want to kill her.*

DIFFICULTY RATING

BOSS 5



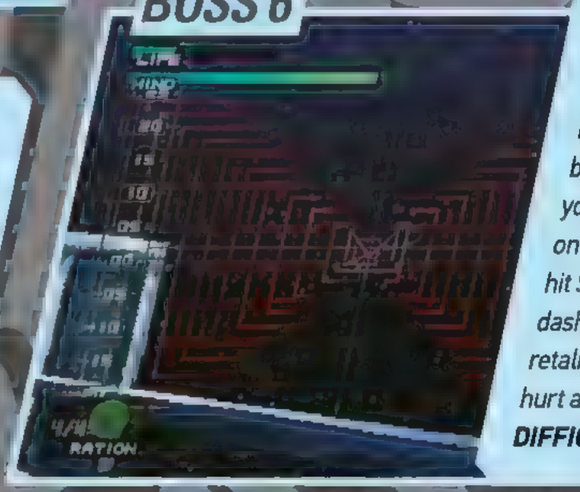
SNIPER WOLF (PART 1)

■ *After defeating Mantis and making your way past some wolves, you reach a long passageway. At the end of this passage lies Sniper Wolf, who very quickly makes herself known.*

HOW TO BEAT THEM: *First off, run back to B2 in the first building and grab the PSG-1. Lie as close to the edge of the wall as you can, pop some Diazepam to steady your aim and follow her with your rifle as closely as possible. Don't give her enough time to shoot and this fight is easy.*

DIFFICULTY RATING

BOSS 6



LIQUID SNAKE IN HIND-D

■ *At the top of the longest staircase in videogame history, Liquid Snake attacks you in the Russian gunship you saw earlier.*

HOW TO BEAT THEM: *Use the big block in the middle as cover and trust your radar. As soon as you've locked on to the helicopter with your Stinger, hit Square, then R1 to un-equip and dash behind cover, as Liquid is sure to retaliate immediately. The heatseekers hurt a lot, so be sure to grab cover.*

DIFFICULTY RATING

BOSS 7

SNIPER WOLF (PART 2)

■ *Soon after you've downed the chopper, Sniper Wolf returns as promised, firing at you from across a barren, blizzard-stricken plain.*

HOW TO BEAT THEM: *As long as you can keep her in your sights at all times there's no real excuse for losing this fight. Her shots hurt a lot, but if you're being alert then you can pretty much lie still and fire as soon as she pops her head out.*

DIFFICULTY RATING !!!!!!!!!!

BOSS 8

VULCAN RAVEN

■ *Upon reaching cold storage, Vulcan Raven returns to do battle in the company of an enormous minigun that he's taken off a fighter jet.*

HOW TO BEAT THEM: *This fight can be tricky as Raven can see further than any other enemy in the game and simply cannot be engaged head on or you'll die very quickly. Watch the radar and get behind him with the Stinger or the Nikita, and keep moving at all times or you're screwed.*

DIFFICULTY RATING !!!!!!!!!!

BOSS 9

METAL GEAR REX

■ *This is the big one. After entering the PAL Key, Liquid Snake activates Metal Gear and attacks you with it in a massive hangar.*

HOW TO BEAT THEM: *Keep throwing Chaff Grenades at all times – this way REX's heatseekers will struggle to keep up with you. First you need to disable REX's radome with the Stinger, and then fire at the cockpit in the second half of the fight. Keep moving and keep your Rations equipped!*

DIFFICULTY RATING !!!!!!!!!!

BOSS 10

LIQUID SNAKE

■ *We'd argue that this is one of the greatest showdowns of all time – a bare-knuckle fist fight between two brothers on top of a massive robot. Incredible.*

HOW TO BEAT THEM: *Liquid is kind enough to tell you to stay away from the edges, so heed his advice. Other than that, it's best to just keep moving around and throw in as many punch-punch-kick combos as possible – you don't have much time to beat him, so make each combo count.* ***DIFFICULTY RATING*** !!!!!!!!!!

» This famous scene was reworked for *MGS2*. Despite its humour, *Metal Gear* isn't for kids.

▶ save the bloody game and Mei Ling just *won't shut up*. It's an intricate balance between action, stealth and the occasional smirk that works so well, when on paper it sounds like it shouldn't. Perhaps the most cited moments in the game are when the fourth wall does, in fact, come crashing down, It almost feels like a waste of time mentioning the Psycho Mantis encounter in the game's first act, as you'd have to have been living under the sea since 1998 to not have heard about his ability to read your memory card, to make your controller vibrate and the fact that you needed to swap your pad to Port 2 to beat him. This is the sort of quirkiness that seems to be missing from modern games. It's still surprising just how effortlessly the mood switches from self-knowing to hard-nosed, for instance when Revolver Ocelot tells you to mash Circle and not to use a Turbo controller or he'll know, before ruthlessly electrocuting you.

But the most important to *MGS* is that no other game could hold a torch to it back in 1998, and the main reason that Kojima succeeded in his goal to create a videogame that was as close to being a movie as possible, was *Metal Gear Solid*'s proclivity for drama. Every stab of the orchestra, every conversation beat and every set-piece was superbly executed and still draw you in now. It's a bit cheesy, sure, but after a few hours in front of *Metal Gear Solid* it's hard not to find yourself completely engrossed.

» This enjoyable remake adds *Metal Gear Solid 2* play mechanics to the mix

THE LEGEND OF ZELDA

OCARINA OF TIME

Recently, Retro Gamer readers voted Ocarina Of Time the second greatest game of all time. We caught up with numerous classic developers to find out why Nintendo's epic 64-bit console classic still has the power to enthrall and enchant gamers after all these years

When all is said and done, a great game is measured simply by the journey you've taken – that moment when you reflect on the hours you've invested and ask yourself 'was it really worth it?'

The best games in history have all provided us with memorable adventures we've enjoyed taking a commanding role in, adventures we've felt a strange polarised sense of disappointment and pleasure at seeing the credits roll, enjoyed paying a revisit to once or twice, and have provided us with memories we will likely carry with us forever – because we were there and we made them happen. For you, perhaps these include something as simple as rescuing Pauline from the clutches of Donkey Kong, or maybe you remember specific parts of bigger pictures most fondly – like the time you finally found you could pull off Dragon Punches on command (grasping the natural technique and not simply following inputs), slaughtered your first Cyberdemon, or crossed the finish line in *OutRun*.

Ocarina Of Time is a game bursting at the seams with memorable moments like these – and countless others besides – one epic adventure makes it not only the best *Zelda* game in the series but, for many people, one of the greatest videogames as well. It's a game that takes you on the most perfect kind of adventure, one that anyone of any age can easily relate: you're the hero, you scale the castle, defeat the villain, rescue the princess, and in doing all of that restore peace to the land and become the stuff of legend.

While there can be no question that the original *The Legend Of Zelda* was a true watershed moment for videogames, and *Ocarina* owes it a sincere debt of thanks for putting the core pieces in place, it was merely a small portion, a compromise if you like, of what series creator Shigeru Miyamoto had actually envisioned for Link, Zelda, Gannon and the land of Hyrule. Since *Ocarina*'s release, Zelda's creator has revealed that *Ocarina Of Time* marks his true original vision of the world – it is the land of Hyrule he imagined, finally brought to life.

Back in 1986, when that first game in the series was released, technical constraints meant Miyamoto could only project the core themes of *Zelda* on the screen – staples such as the three central characters, the Triforce, Hyrule, the sense of freedom, and of course the dungeons. And as early as its first sequel, it was clear Miyamoto was beginning to think more about how, having smashed the pegs into the ground, he could start erecting his true image for Hyrule using the modest powers of the NES.

The Adventure Of Link, while widely branded as the 'black sheep' of the series, shares a number of striking similarities with the franchise's golden calf. The sequel added side-on platform sections that transported gamers into the heart of Hyrule, with this new viewpoint used to create village sections filled with people with which Link could interact and converse with during his quest. Not only would this help to breathe a greater sense of life and immersion into the world, but also weight a greater sense of responsibility on the shoulders of the player too.

The sequel also had a stronger emphasis on action. Link could now cast spells (in *Ocarina Of Time* Link could do the same, and a new magic meter allowed him to perform special charge attacks) and earn experience points to improve his attacks. While this levelling up mechanic was promptly dropped by the series soon after, this aspect of character development still played a big part in *Ocarina Of Time*'s gameplay – just now it was done by the far more interesting means of acquiring new gadgets, items, additional heart containers and better weapons during the quest.

But while *Ocarina* appears to be inspired most by *The Adventure Of Link*, the game also took a number of popular ideas and themes from other sequels too. The ocarinas, for example, which play a big part in helping you progress in the story, made their first appearance in the Game Boy game *Link's Awakening*, while *A Link To The Past*'s dark and light realms also returned, with Link aging seven years in the game to see the devastating effect Ganondorf's rule has had on the kingdom of Hyrule.

Ocarina Of Time was first unveiled at Nintendo's Space World event in December 1995. Shown to a floor of astonished and excited attendees, Nintendo announced that the game would be ready in time to become a launch game for its successor to the Super Nintendo, the Nintendo 64. But with the launch just a year away, that projection proved a little ambitious.

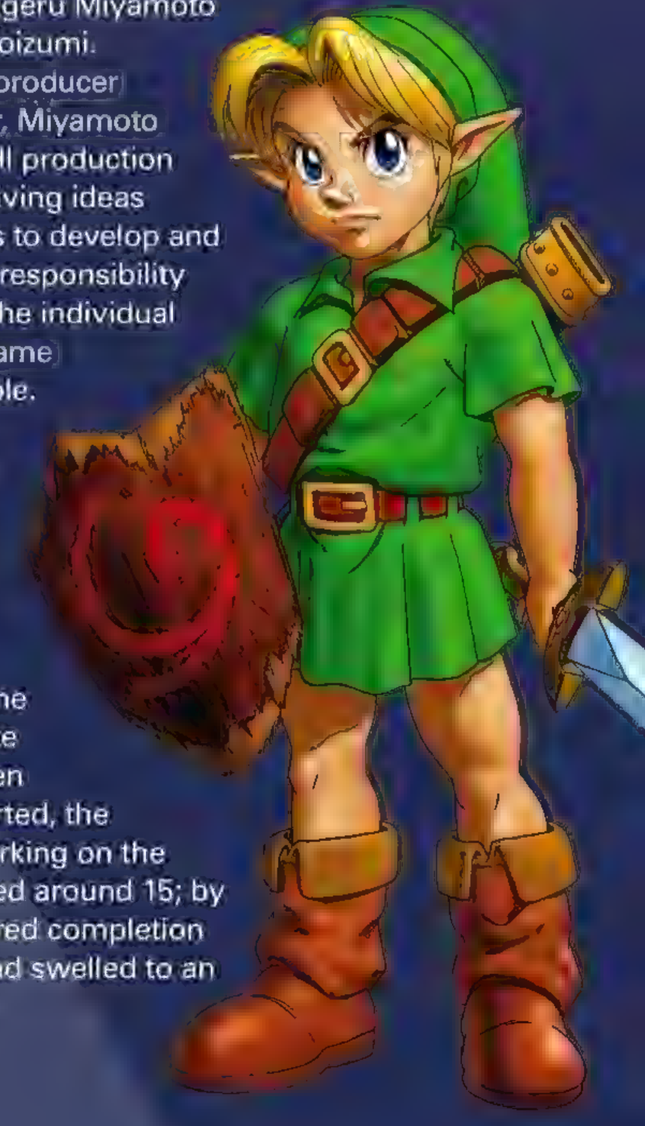
"When the project started, the team working on the game numbered around 15 people; by the time it neared completion this number had swelled to 50"

Ocarina didn't actually appear until the end of November, two years after the launch of the N64 in Japan, following a number of delays.

Designed on a heavily altered version of the *Mario 64* engine, *Ocarina*'s creation was handled by Nintendo's EAD branch, with different parts of its creation overseen by various teams headed up by different directors. Each team focused on areas such as scripting and story scenarios, Link's actions and camera controls, and coming up with the various items for him to use in the game. As the development progressed, further teams were added, overseeing aspects such as sound and special effects in the game. Finally, Kensuke Tanabe, writer on *A Link To The Past*, returned to once again pen the script for the game based on a story idea that had been hatched by Shigeru Miyamoto and Yoshiaki Koizumi.

Working as producer and supervisor, Miyamoto oversaw overall production of the game, giving ideas to the directors to develop and also it was his responsibility to see that all the individual componants came together suitable.

When *Mario 64* was released, Miyamoto was able to concentrate solely on *Zelda* to help the teams complete the game. When the project started, the developers working on the game numbered around 15; by the time it neared completion this number had swelled to an impressive 50.



A number of things delayed *Zelda*'s release. As well as its development moving across to the 64DD at one stage (with the plan to make it a launch game for the N64 disk-drive add-on), when thinking of how best to fully immerse the player in Hyrule like never before, Miyamoto had originally wanted the game to play out entirely in the first-person too. This idea, however, was dropped after it was decided that during the game the player would control Link both as a boy and then as an adult, and the idea would have lost much of its impact if Link remained out of sight for the majority of the adventure. Surprisingly, the game's memorable story was actually incorporated and finalised at the latter stages of the game's design.

In keeping with the game's focus on immersion and displaying the land of Hyrule in the best possible way, it was Miyamoto's intention that the camera in the game had a spotlight on Hyrule rather than Link and his actions. This decision made logical sense in the adventure game setting. In *Mario 64*, players benefited greatly from having fluid and clear sight over Mario at all times, helping them to get accustomed to his new abilities and negotiate platform sections in a new 3D space. It was decided that such requirements were not necessary in a *Zelda* game.

Magic Moments

We relive some of our favourite moments from Ocarina Of Time

Kokiri Forest

YOU START THE game in Kokiri Forest, Link's village, and can spent ages exploring it before venturing out into Hyrule Field. Acting almost as a training dungeon, Link has to retrieve both a sword and the Deku Shield to be granted an audience with The Great Deku Tree. When both objects are retrieved, Link then enters the tree and embarks on his first dungeon. Once complete, the tree warns Link of Ganondorf's evil intent, rewards him with the first spiritual stone and tells him to speak with princess Zelda.

Hyrule Field

MANY *ZELDA* FANS remember the first time they set foot onto Hyrule Field in the game as being a special and defining moment in gaming. The point at which *Ocarina* really starts to reveal its size and majesty, the field acts as a hub stage and is surrounded by various different areas, all populated by the different races that populate Hyrule. When you make your way to Hyrule Castle and the sunlight in the sky fades, you cannot help but feel both impressed and captivated.

Learning Epona's Song

NAVIGATING HYRULE FIELD by foot is fine to begin with but later on in the game you'll be covering a lot of ground; it's a good idea to pay a stop to Lon Lon Ranch located near the centre of the field. Visiting there as a child, Link meets Malon, the owner's daughter, who teaches him to play Epona's song on his ocarina. When he returns as an adult, and learns that Ganodorf has handed the ranch to devious range hand Ingo, Link uses the song to tame Epona and bust her out. She is then his to ride in Hyrule Field.

Rescuing Princess Zelda

AFTER AN UNNECESSARY *Metal Gear*-style stealth section, in which Link must avoid the glare of the guards as they patrol the grounds of the castle, he finally catches up with princess Zelda. Their encounters always memorable, she tells Link that she fears that Ganondorf is seeking the Triforce to rule Hyrule, and so asks him to retrieve the remaining two spiritual stones and get to its before he does. And Link does just that. Well, she is the princess after all.

Lord Jabu-Jabu's Belly

THERE ARE SOME imaginative and brilliantly designed dungeons in *Ocarina* but none more quirky than the belly of Lord Jabu-Jabu. One of the game's trickier dungeons to complete, it sees Link getting swallowed by the giant, sacred whale-like creature after giving him an offering of fish, and then having to travel through his extremely large stomach to find Ruto, the princess of the Zora race, and retrieve the final spiritual stone together.

Learning The Ocarina

MUSIC PLAYS A big part in *Ocarina*, as is to be expected from a game with a musical instrument in the title. Not only is the audio in the game dynamic, quickly changing depending on what's happening, but its characters and many areas are also given their own unique motif too. Music also has a significant part to play in the quest and story, thanks to the eponymous ocarinas. Acquiring his first ocarina from Saria when he leaves Koriki Forest, Link continually learns new songs to aid him on his quest – tunes to open doors, befriend people, even for summoning help.

Entering Adult

THE SEQUEL *A Link To The Past* was the first game to introduce the dual-realm mechanic to the series. Proving so popular, it was then reintroduced brilliantly in *Ocarina*. When Link enters the Sacred Realm his concentration is momentarily distracted by the Master Sword, allowing Ganondorf to seize the Triforce. When Link awakens seven years later, he's an adult, and the kingdom of Hyrule has been cast into darkness and despair as a result of Ganandorf's abuse of the powerful relic. Link is given a startling glimpse of what the future holds should he fail in his quest.

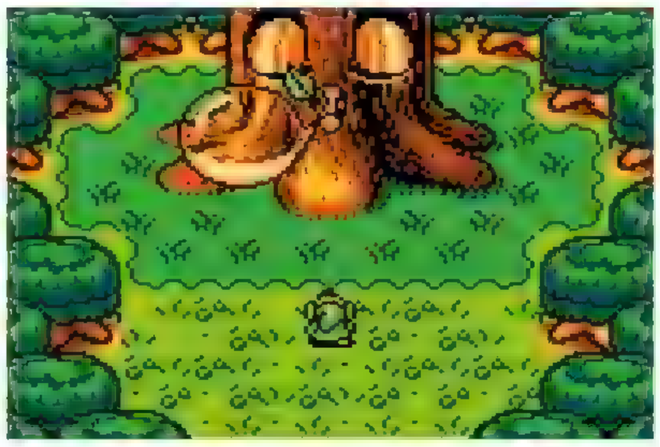
THE MANY ADVENTURES OF LINK

Here's just a few of the adventures Link has been on since starring in Ocarina Of Time

The Legend Of Zelda: Majora's Mask

System: N64 Year Released: 2000

There are some people who actually prefer this to *Ocarina Of Time*, and it's easy to see why that might be the case. Unlike *Ocarina*, *Majora's Mask* is structured around a constant three-day cycle that sees Link changing into a variety of different characters, as he tries to stop Termina, the alternate world of Hyrule being obliterated by its out of control moon.



The Legend Of Zelda: Oracle of Seasons

System: Game Boy Color Year Released: 2001

Oracle Of Ages marked Nintendo's first collaboration with Capcom on its popular series. Linking together with *Oracle Of Seasons* (a password allows you to continue your adventure) it's an enjoyable quest that sees Link manipulating the seasons to solve a slew of clever puzzles. It lacks the imagination of *Link's Awakening* but remains a worthy handheld adventure.

The Legend of Zelda: Oracle of Ages

System: Game Boy Color Year Released: 2001

Oracle Of Seasons' counterpart shares similar elements with *Majora's Mask*, in that you must manipulate the flow of time to achieve the vast majority of your goals. It's another grandiose adventure that shares a fair few similarities with *A Link To The Past*, and was further proof that Capcom could treat the *Zelda* franchise with just as much respect as Nintendo.

The Legend Of Zelda: A Link To The Past & Four Swords

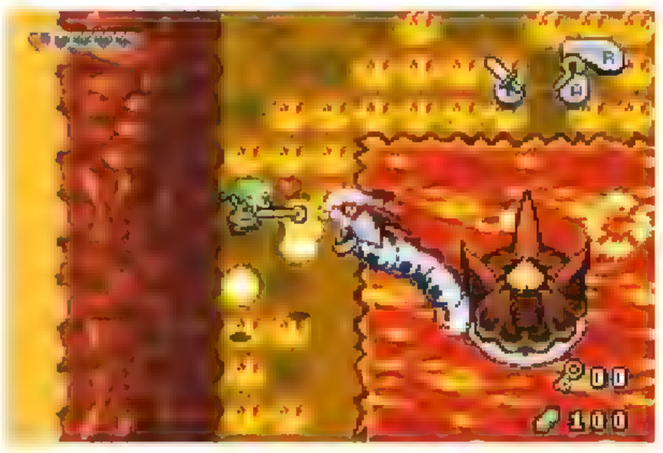
System: Game Boy Advance Year Released: 2002

Although *A Link To The Past* wasn't a new game, it was significant here as it introduced the smaller standalone adventure *Four Swords*. Created by Capcom, it's a clever little four-player game that was expanded for the later GameCube release. *A Link To The Past* was changed very little, but it's surprisingly well-suited to gaming on the go.

The Legend Of Zelda: The Wind Waker

System: GameCube Year Released: 2002

Many were put off by *The Wind Waker*'s cel-shaded visuals, which is a real shame, as they enabled Miyamoto to convey a sense of emotion in his characters that had never been seen before or since. The expansive ocean travelling put some off, but everyone else discovered another incredible adventure that easily captured the spirit of earlier games.



The Legend Of Zelda: The Minish Cap

System: Game Boy Advance Year Released: 2004

The Minish Cap is another fine effort from developers Capcom and dovetails nicely with the events of *Four Swords* and *Four Swords Adventures*. In addition to introducing a talking bird hat called Ezlo and a variety of excellent new items to collect, *The Minish Cap* also shrinks Link down for the vast majority of the game, which gives it a very distinctive look and adds plenty of fresh new mechanics.

Since the release of *The Legend Of Zelda*, Miyamoto had always wanted to make players feel as if they were really inside Hyrule. With the N64 giving him the power to finally do this, Miyamoto and his teams thought about how best to make the player feel fully immersed in its world. And, in finding their answer, they came up with another of *Ocarina Of Time*'s best aspects: the controls.

"Every aspect of Ocarina felt well-considered; it was like the game was trying its hardest to make your stay in Hyrule as pleasurable as possible"

To say the controls in *Ocarina* are attuned perfectly to the game world better than any 3D game that has come before or since is no exaggeration. Making full use of the crazy number of buttons on the N64 controller, Link was able to effortless navigate Hyrule. Simple but very effective inclusions – such as having him jump automatically whenever he was steered off the edge of a platform (considerately saving you the obvious job), and a context-sensitive A button which could be used to make Link wave his sword around, open doors, move objects, climb platforms, and converse with Hyrule's many memorable characters – made the game instantly playable.

Similarly, using items and viewing the world was made a breeze thanks to clever use of the controller's yellow C (camera) buttons. In third-person mode, items could be assigned to them to enable easy and immediate access during the game, while in first-person mode the same buttons offered total control over the game's camera to help you get your bearings and offer precision aiming for weapons such as the slingshot and boomerang. Combat, like everything else in *Ocarina Of Time*, was also made incredibly simple thanks to an innovative new combat system the game introduced that was called Z-targeting. An automatic aiming mechanic for Link's projectile weapons, it has since become combat staple in videogames and has been used in many games across various different genres.

In addition to the game's obliging control scheme, players were also aided on their quest by a fairy helper called Navi. Acting as your guide throughout the adventure, and never away from Link's side, she would point out points of interest during the game as well as offer useful hints and suggestions to help you complete puzzles.

Every aspect of *Ocarina* felt well-considered; it was like the game was trying its hardest to make

The Legend Of Zelda: Twilight Princess
System: GameCube/Wii Year Released: 2006
As good as *Twilight Princess* was, it was more a retread of ground covered in *Ocarina Of Time* than it was a brand new adventure. It was also hampered on the Wii thanks to controls that, while decent, weren't as accessible or intuitive as expected. Our advice would be to make the effort to hunt down the more expensive – but far more satisfying – GameCube offering.

The Legend Of Zelda: Spirit Tracks
System: DS Year Released: 2009
Although we enjoyed *Spirit Tracks*, there was a distinct feeling that the franchise and well-used formulae of the past were beginning to run out of steam. The train sections proved disappointingly simplistic and monotonous, while the dungeons lacked the pizzazz and cleverness of precious offerings. It's still a great adventure, of course, but we're used to more from Link.

The Legend Of Zelda: A Link Between Worlds
System: 3DS Year Released: 2013
Link's first original 3DS game is actually a sequel to SNES hit, *A Link To The Past*. As a result the game world is instantly familiar, but it's set up so that you can pretty much tackle any dungeon you wish. There's also a brilliant new ability for Link which allows him to become paper thin so that he can access brand new areas that would otherwise be impossible to reach.

The Legend Of Zelda: Breath Of The Wild
System: Wii U/Switch Year Released: 2017
Link's latest adventure made its debut on both the Switch and Wii U. It greatly improves the *Zelda* formulae of old, creating a huge open world for Link to explore in any way he chooses. Filled with magical moments and finely tuned mechanics, it's an excellent game that cherry picks all the greatest moments from open world games and delivers them in an unmissable package.

your stay in Hyrule as pleasurable as possible, so that you'd tell all of your friends to pay it a visit, or maybe even decide to revisit it again yourself.

The story of *Ocarina Of Time* is set before the events of the first four games in the series, and sticks to the traditional *Zelda* template: Link must venture into a series of enemy-filled dungeons, find a desired object and then make his escape by defeating a gargantuan boss blocking the exit route. However, *Ocarina*, like *A Link To The Past* before it, is split into two very distinct sections. The first, which is set in a lush and vibrant-looking depiction of Hyrule, sees Link as a young boy, under orders from princess Zelda to retrieve three Spiritual Stones that will grant him access to the Sacred Realm where the Triforce is kept. Simply getting to this point can take players around a week – more should they embark on many of the side-quests – but this is less than halfway through the adventure. Upon unsealing the Sacred Realm, Ganondorf pilfers the Triforce and Link is sealed in the Sacred Realm and must work out how to escape.

It is once you reach this point that events take a dramatic turn. Seven years have now passed, and when Link awakens he is met by one of seven sages whose job is to protect the Triforce. Now a young adult, Link learns that Ganondorf has used the Triforce to cast the kingdom of Hyrule into darkness. Hope now rests with Link reawakening five dormant sages, by travelling to five temples in Hyrule to defeat Ganondorf's monsters and break his evil spell. If he succeeds, the sages can trap Ganondorf inside the Sacred Realm and restore the kingdom of Hyrule to its original state.

The moment that Link steps outside and sees the effects Ganondorf's reign has had on Hyrule – sapping it of all life, colour and beauty

and turning it into a dark, depressing, shrivelled up shell of its former self – is one of *Ocarina Of Time*'s many rug-pulling moments. Hyrule now looks ashen and volcanic; the walking dead replace the fizzy townsfolk; and Kokiri Forest is overgrown with deadly flora and vegetation, no longer a safe haven for Link, but the perfect place for evil to thrive.

Like that memorable scene in *Back To The Future 2*, where Marty returns to a bleak and unwelcoming image of the present in which Biff has become a casino magnate, it's an effective plot device that shows the hero an important glimpse at what his future will be should he fail to put things right. In *Ocarina Of Time*, the effect is used just as evocatively as in the movie, spurring the player on to complete their quest and put things right. Indeed, paying a return visit to many of the familiar locations around Hyrule at this point kicks up a number of surprises for Link and the player. Lon Lon Ranch, the stables where Link finds and (once an adult) wins his trusty horse Epona, is now under new ownership. Walking through its tall gates expecting to find a friendly face, Link learns that its original proprietors, Talon and his daughter, have been mercilessly booted out of their home by Ganondorf, and ownership has now been handed to Talon's deceitful stablehand Ingo. This, and many other changes for the worse you learn about, which soon add mounting weight to the quest, as you see not only the important but also the personal effects of your actions.

> **"An enchanting and perfect game world, which set an early benchmark for all 3D adventures that has still yet to be bettered in any meaningful way"**

With its numerous delays, an almost-switch of platform, and also in taking that sometimes tricky step up to 3D, it would be fair to say that *Ocarina Of Time* exceeded almost everybody's expectations at the time, achieving incredible reviews. Nintendo not only appeased longstanding fans of its popular franchise by delivering a brand new 3D *Zelda* game to surpass the lofty eminence of its 16-bit masterpiece *A Link To The Past*, but also managed to attract a whole new audience to the franchise by delivering one of the greatest adventure games to ever see release. Garnering high acclaim and rave review scores across the board, and making history by scoring the first ever 40/40 in *Weekly Famitsu*, the only other game sequels to have ever had the same kind of impact are perhaps *Street Fighter II* and Nintendo's very own killer app, *Super Mario 64*.

If we want to be incredibly picky, we'd say that there are some weaker aspects of *Ocarina Of Time* that don't live up to the majesty displayed elsewhere, and which leave it looking and feeling fairly dated today. For example, at points it's not made explicitly clear where you should be going next in the game, and there are sections that only open up to you on the completion of some pretty stupid criteria – such as cleansing a room entirely of bats (which can sometimes mean that the odd wayward one can leave you stumped), or having two conversations with the same character in quick succession. Don't even get us started with the swimming mechanics, or the legendary

FAVOURITE MOMENTS FROM OCARINA OF TIME

Readers offer us a link to the past by recalling the Ocarina moment that has stayed with them more than any other

theantmesiter
Finishing it. I bought *Ocarina Of Time* on release day back in 1998 and it literally took me ten years to finish it. Looking back, it really was the greatest adventure I ever experienced in gaming. I aged along with Link and almost cried when it was over. And with that, I boxed up the game and haven't touched it since.

ShadowMan
Getting out of the Water Temple. Words cannot describe my joy and relief to finally finish that pain in the ass.

RetroMartin
Pulling out the Master Sword; classic scene, classic tune... and the ability to change from adult to kid!

Shinobi
When you first meet Zelda for the first time and she plays Epona's Song – the best piece of music ever! Also, the art gallery, and the Grim Reaper on the horse that came out of the paintings..

sscott
Walking out onto Hyrule field for the very first time and thinking, 'I can go anywhere I want!'

The Mask Seller
I've mentioned this before but when Link first leaves Kokiri Forest, the parting with Saria on the wooden rope bridge gets me every time. They're just children in the game but the parting is handled so well. It conveys a lot more emotion with its muddy textures, simple character models and purely text script then any FMV-enhanced epic I've played. I also love the bit when the Goron King rocks out to Saria's Song.

learnedrobb
Just one moment? There's no way I can manage it. I'll say the whole damn game!

StickHead
Got to be escaping Lon Lon Ranch on the back of Epona. I felt like Steve McQueen in *The Great Escape*.

mrmarvelxiii
It has to be the ending. No other game ending has touched me so deeply; the music, the gathering around the Lon Lon Ranch Bonfire and that final shot of young Link and Zelda meeting once again...

Budley Moore
Simply solving some of the fiendishly deceptive puzzles, kicking myself after spending hours and hours trying to solve them, only to realise it was something simple, like firing an arrow into the eye or such. A great game.

Reglan
When Link first encounters King Dodongo. I think my jaw hit the floor from being caught off guard by how massive that thing actually was. The ensuing battle is still one of my favorites.

Zapper
Beating the game without picking up any extra heart containers. The atmosphere is generally great in this game but this challenge I set for myself made me feel it a lot more. I had gotten a bit too used to the game after playing it so much, so this made it a lot more exciting.

Miketendo
I think the most important moment in *Ocarina Of Time* isn't just one moment, it's all the moments. That was one of the last games that I just could not put down until I finished it. I haven't had that feeling since *Ocarina*. The overall feeling of massive exploration was astonishing, and I think that's what ultimately sold me on the game in the first place.

FatTrucker
At the time it was released probably the standout moment for me was when you finished the first hour or so of godawful Nintendo™ handholding and 'practice', and suddenly had access to anywhere you wanted to go. It just seemed so suddenly unscripted and ripe for exploration as you walked out onto Hyrule field for the first time. It was probably the first step toward whats now known as 'sandbox' gaming, and it felt genuinely new and exciting at the time.

dste
I would say, for me, that out of the entire game my favourite moment would be when, after seven years, Link leaves the Temple of Time and you see how time and evil has destroyed Castle Town. Death Mountain sitting in the background with the light whirring around it just looks immense, and it just introduces the next part of the game so brilliantly.

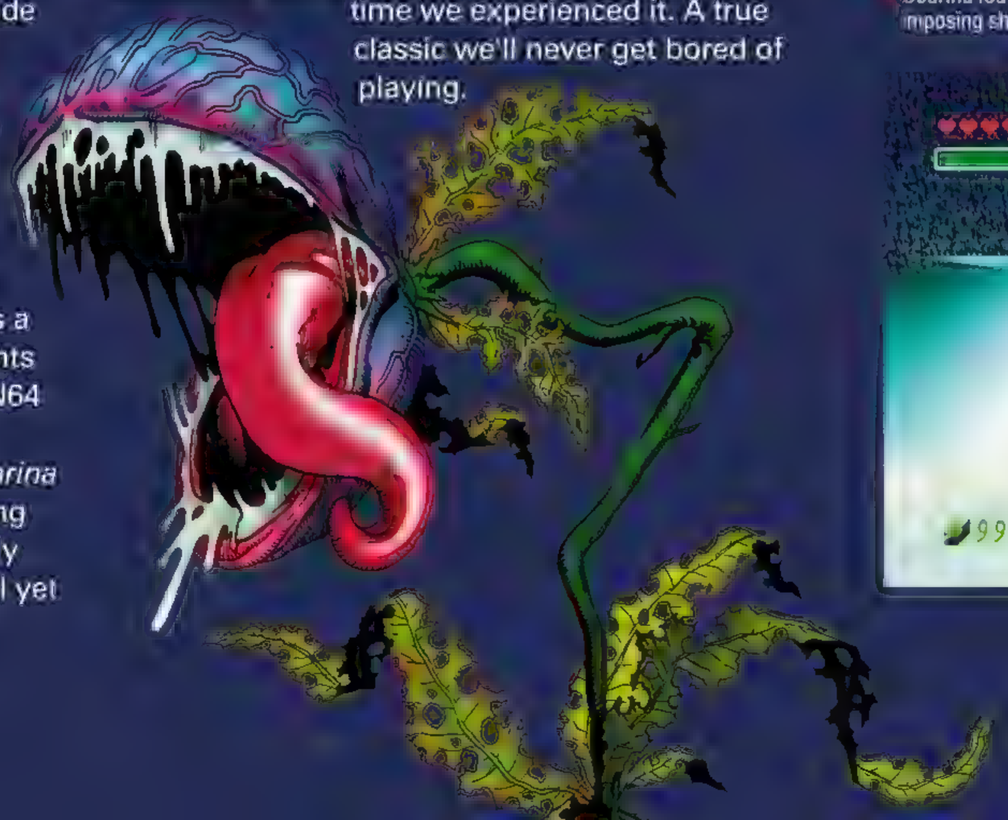
boggyb68
The beginning; all I do in it is wander around the village throwing rocks all over the place and making a silly whooping noise at the same time... it's marvellous!

frustration of its slow-motion Water Temple dungeon. However, its lush, beautiful 3D world, fluid controls, masterful storytelling, game design and incredible pacing make it as perfect a game as you could probably ever hope to play.

That its influence and popularity can still be felt to this day is a mark of its impact and legacy. Having already been re-released twice before, first with *Ocarina Of Time: Master Quest* for GameCube in 2003 – a revision of the game featuring new puzzles and tougher dungeons to tackle – and then for Virtual Console, the game is once again thrust back into spotlight with a new remastered – and, dare we even say, definitive – edition for the 3DS. As well as rendering the Hyrule in stereoscopic 3D, *Ocarina Of Time 3D* has made subtle improvements to the gameplay, full use of the console's in-built touch-screen for item selection, and gyroscope technology to offer motion-controlled aiming. It also came packaged with both the original N64 and *Master Quest* editions of the game, as well as a brand new boss rush mode for fans to hone their Z-triggering skills with. In short it's a superb update of a classic game that highlights just how far ahead of the curve the original N64 classic was at the time.

Clearly proud of what it achieved with *Ocarina Of Time* – creating one of the most enchanting and perfect game worlds, and setting an early benchmark for all 3D adventures that has still yet to be bettered in any meaningful way – Nintendo is clearly hoping the 3DS will help encourage those who missed the game first time around to pick up and experience one of its most finest and accomplished videogames. The muddy Nintendo 64 visuals may have lost some their magic since the game was originally released, but that's never been *Zelda*'s formula for success and it never will be, as the recently released *Breath Of The Wild* proved. As we said at the start, the mark of whether a game is good or not is always judged by reflecting upon the journey it's taken you on. No game series on any format proves that better than *Zelda*, and few games, if any, offer a journey as magical, memorable and timeless as *Ocarina Of Time*. It remains as enchanting to play now, as it did the very first time we experienced it. A true classic we'll never get bored of playing.

Ocarina features plenty of epic bosses, made more interesting by their imposing shapes filling the screen and clever attack patterns.



Shenmue

IN THE KNOW

» **PUBLISHER:** SEGA

» **DEVELOPER:** SEGA-AM2

» **PLATFORM:** DREAMCAST

» **RELEASED:** 1999

» **GENRE:** ADVENTURE

Record-breaking, technically astounding, but cripplingly expensive and still unfinished. Cole Machin asks why Shenmue continues to command such a following?

Over the years there have been many games hailed as triumphs of game engineering, as milestones of progress in the industry and as huge leaps forward in terms of depth and gameplay. Of these titles, few have encountered as many difficulties or been as beloved by its fans as *Shenmue*. Within its development, the series has outlived two consoles, racked up a monumental price tag and created a fan base that has endured nearly a decade since the last release.

As many *Shenmue* fans will already know, the series' beginnings were rooted deeply in another Sega-AM2 series, as a planned RPG expansion of the *Virtua Fighter* universe intended for the Sega Saturn; a genesis that can still be seen not only in the character modelling, but in the source code as well. The brainchild of Yu Suzuki, even in the final release of the game, Ryo's character ID remains 'AKIR', a shortened form of 'Akira'. Although it is difficult to pin down exactly when the game grew beyond these humble roots, it would certainly seem that it came late in the project's two-year-long development for the Saturn or early in the Dreamcast development. In fact, it's hard not to develop a knowing smile looking over early pictures of the character that would become Ryo while comparing them to images of Akira from *Virtua Fighter 2*. Even in the video of a development version of Saturn *Shenmue*, packaged with the Dreamcast *Shenmue II* release, the resemblance to Akira is obvious.

Despite the obvious amount of progress made during this two-year span, the writing on the wall was becoming clear for the Saturn as North American sales lagged, developers struggled with the notoriously difficult setup of the system's hardware, and support from Sega of America began to fail. Work on the Saturn version was halted; it was clear that if the *Shenmue* saga was ever going to see the light of day, it would have to be done on a different console, and Sega had just the console in mind.

Thus was the beginning of *Project Berkley*, the codename used for the early development of *Shenmue* on the still pre-launch Dreamcast. Several videos of these *Project Berkley* tech demos can still be found on the internet. It is interesting to note that the age of these demos marks *Shenmue* out as possibly one of the very first games to begin development for the Dreamcast. The *Project Berkley* moniker remained attached to the project for some time, sticking long enough to appear on the teaser disc attached to the Japanese launch release of *Virtua Fighter 3tb*. This disc was, for most, the first glimpse of AM2's new project.

Although it's tempting to blame much of the cost of *Shenmue*'s development on the difficulties encountered during the Saturn era and the shift in development from the Saturn to the Dreamcast, it would not be entirely accurate. Regardless of the change to the more coder-friendly console, the *Shenmue* project was still no laughing matter. The sheer cost of manpower and organisation for such an undertaking is immense. In fact, when we asked lead systems programmer Tak Hirai about his role in the development of *Shenmue* for the Dreamcast, he replied: "I was responsible for managing a team of 87 programmers. I also made final judgements regarding the overall program behaviour of the whole game. Managing this huge team of programmers was a nightmare since it could take more than 14 and a half hours a day just speaking with each person individually. If I only spoke with each programmer for ten minutes, you can see how it would add up."

In terms of his own programming workload alone: "I was in charge of not only constructing the coding environment but also coding a fundamental processing architecture to make system programmers easier to work with. I was also in charge of the character system, rendering pipeline, lighting engine, and also optimising the performance of these systems. I had my hands dirty on playing around with SH4 assembly [programming language] on the Dreamcast to tune up the performance. Small and detailed codes used in the cut-scenes such as physics simulation of phone cords, handcuff chains in the second chapter, and trailing visual effects of the car signals were also done in my spare time. I finally ended up creating around 200 source files out of more than 300 files in total."

To this day it's amazing that the project was completed at any cost. Although it's possible to point to other games released in the same era with a similar scope of story, we've encountered nothing on the same level in terms of the game systems. With such a large team and array of smaller

WHO'S WHO

The key players in Ryo's adventure on the streets of Yokosuka

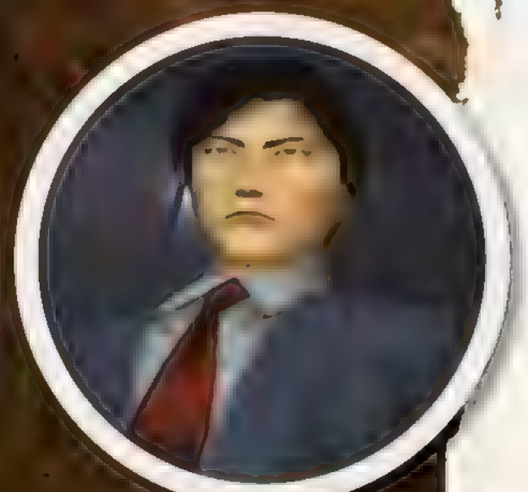
NOZOMI HARASAKI

Nozomi is a childhood friend of Ryo's, and the game's primary love interest and occasional damsel in distress. She's remained in Japan despite her parents' move to Canada and can usually be found working at her grandmother's flower shop. She has the largest number of unique phone conversations of any character.

MASAYUKI FUKUHARA

Fuku-san is a former student of Iwao Hazuki and has lived in the Hazuki residence since a young age. He is often shown to be somewhat clumsy and socially bumbling, occasionally serving as comic relief. In spite of a few faux pas that make Ryo's life a little harder, he's extremely loyal and it becomes clear that Ryo thinks of him as a brother.

GUI ZHANG CHEN



Gui Zhang is the son and student of antiquities trader and martial arts master Chen. Although the two have a rocky beginning, Ryo and Gui Zhang form a close, if unconventional, friendship. Their evolving friendship is perhaps the strongest relationship development found in the first game.

MARK KIMBERLY

Mark is a co-worker of Ryo's at the harbour and the man responsible for his forklift driver's training. He has come to the harbour to search for clues as to the fate of his missing brother, leading to some very emotional scenes with Ryo. Although he is an often-overlooked character, disc three would just not have been the same without him.

LAN DI

Lan Di, the antagonist of the series, is the man responsible for the death of Iwao Hazuki and the target of Ryo's quest for vengeance. Through the course of the first *Shenmue* he is left a mysterious character. Little is known about him beyond his connection to the Chi You Men, desire for the mirrors and apparent sheer brutality.

projects involved, development required fantastic organisation of not only the available manpower but also of the game's program and the programming environment itself.

Hirai was kind enough to go on to explain the streamlining required: "The programming section was roughly divided into two groups. The first was the system programming team and the other was the game event programming team. In-game events in *Shenmue* were driven by the scripting language. Regarding the program interface, we defined the table of functions associated with in-game event functions so that it wouldn't affect the event program structure whenever we updated the system components. In order to maximise the performance in an environment where up to 87 programmers had to work together, we eased the workflow by downloading pre-compiled object files, which didn't depend on source code, in an individual programmer's local environment. I thought it was ridiculous for 87 programmers to spend time recompiling just because someone modified one bit of source code."

Regardless of the expense of such a development, it was necessary to realise the vision intended for *Shenmue*.

"We took tremendous efforts to implement features that were invisible to the player," continues Hirai. "If the game felt natural to you and nothing stood out as particularly unrealistic, that's because we spent a lot of time to create the game's subtle details despite the very limited hardware horsepower and technology of the time. When it comes to the weather system, it heavily depended on the processing performance, so the most important issue was to optimise the performance.

Regarding non-player characters, all 300 characters were specifically positioned in the game field so we didn't have to blindly calculate the collision between all characters if everything was in sync. However, when a non-player character had to change their walking path to avoid the player, it became increasingly harder to manage what would have been a very simple thing in the real world, such as making an off-track character stand right in front of a door."

It's difficult to explain to a modern gamer just how amazing these features were at the time of *Shenmue*'s release. We can still recall our awe, watching the fish swim in the koi pond or noticing Ryo's shadow falling in different positions depending on the time of day. Although the features may have been, as Hirai says, largely invisible to the player, they certainly did expand upon the game in truly amazing ways. Even if, unlike us, you didn't spend at least a few of Ryo's lunch breaks at work chasing

» Love them or hate them, Quick-Time Events were a huge part of the *Shenmue* series.

MINIGAMES

You really can't talk about *Shenmue* without mentioning the sheer volume and playability of its mini-games. Although purpose-built mini-games such as *QTE Title* and darts were not entirely unheard of in RPGs and adventure games of the time, the inclusion of full classic arcade games such as *Space Harrier* and *Hang-On* was a unique touch. The mini-games were a big part of bringing the entire experience together, of giving you the feeling that you could do whatever you liked with Ryo's time. Throughout the existing series, we were treated to a wide variety of mini-games, including *Space Harrier, Hang-On, After Burner, QTE Title 1* and *2*, darts, pool, slots, *Lucky Hit* and a few variations of dice-based games. It's a selection of games that would have done early entries in the party game genre proud.

» The variety of moves was nothing short of astounding.

“We can still recall our awe, watching the fish in the koi pond”

birds that would scatter realistically as you charged towards them.

As the creation of the game progressed, of course some of the features originally planned for the game did have to be scrapped, even in a game as epic as *Shenmue*. Of these features, the most talked about certainly had to be the ability to ride a bicycle, which was demonstrated in one of the early tech demos. We couldn't resist the urge to ask Hirai just why this feature didn't make the cut and what other features failed to make it into the final version that he may have liked to see on the published discs.

"Actually, I was the first guy who implemented the bike-riding feature," he explains. "This was done at the early stage of the development. We originally intended to begin the game in China, so I made it as a showcase to see how it looked when you rode the bike in a meadow. Another programmer took over that part of the project and worked on the vehicle programming at the end of *Shenmue*. I personally think that we had to cut this feature out from the game because there wasn't a significant enough advantage for the player to ride a bike through the city over simply running around in Yokosuka.

"During the development, there used to be special features, like the player being able to lift up an object like a house and throw it. Fast-forwarding or rewinding the day and night cycles worked great for debugging the game, so I wanted to leave these features in the final product as Easter eggs."

Regardless of what features failed to make an appearance in the published version, the final release suffered from no lack of things to do. Above and beyond the systems discussed earlier, the breadth of little extras is fantastic. You could choose to spend your time collecting toys, drinking sodas, buying crisps, taking care of your stray cat or playing games at the local arcade. It's a funny thing, as truly engrossing as the story of *Shenmue* is, that it is quite linear, allowing only a few hidden scenes without any true branching of the main storyline. That said, the funny thing is that we've never felt at all constrained while playing *Shenmue*, which we believe is a result of these extras. Somehow the ability to waste a day playing darts, to choose dried fish over milk to feed your cat, to satisfy your voyeurism by rummaging through Ryo's drawers, or just to give Ine-san a call during your lunch break all comes together to give you an amazing feeling of freedom. Seemingly, that was no accident.

"We created a lot of innovations never seen before *Shenmue*," says Hirai. "I would say the hardest part of this project was to imagine and create a 'you can do anything' kind of feeling, which did not exist in that era."

Shenmue's impact on the gaming industry was huge, opening a door to a new sub-genre of games that did not previously exist. Even beyond this, it opened our eyes to what could be done, and it raised the bar just a little in terms of the effort and forethought that we demand from game designers.

"I think that *Grand Theft Auto* owes *Shenmue* a lot for its great success, even after coming into the 3D realm," posits Hirai. "Everyone I've met also mentions the detail quality in *Shenmue*. I've been told: 'Don't do so much on the quality to the extent of making a cod in a pond swim smoothly.' Some even said this to me out of fear, since we might make this level of quality an industry standard! It might be simple to say it's

about the quality, but I'd rather say it's about 'quality to make it feel real', which is how this project contributed to push the envelope of the gaming industry."

Often the largest impact of a project like *Shenmue* lays in what the creators themselves take away with them, with the attitudes and ideas they carry into their future projects. As such, we couldn't help but go on and ask what effect the creation of this game had on Hirai personally and his team: "It makes me continuously think and express my thoughts as an engineer, since the project was filled with obstacles and impossible goals. The production took four whole years and I'm proud of myself as the lead programmer to have brought this game into the hands of players, even though we've now graduated through multiple generations of consoles. A lot of team members joined and left the project, and there were so many 'firsts' for us and it was very hard to see how it would all turn out, and how it would be remembered. I owe my accomplishment of four years of lead programming experience to those who worked at my side until the end of the project. Many thanks to all of the team members who supported me."

Despite any impact it may have had, the fate of the series itself was a sad one. The original release cost a colossal $70 million to produce, which is still an astronomical sum and completely unheard of at the time. Dreamcast sales were simply not high enough to support such an expensive game – if every Dreamcast owner at the time of the game's release had purchased a copy, the production would still have lost money. Sales for the original instalment were, however, reasonably strong, at over a million copies worldwide.

Unfortunately, the fate of the series was tightly tied to the Dreamcast, a system that was about to run into some very serious competition from Sony's PlayStation 2. The game's release came just a few short months before the release of the PlayStation 2 in Japan, and only days after in the European and North American markets. It would only be another 16 months before the discontinuation of the Dreamcast in the North American market, which is a difficult place for a console-exclusive trilogy to find itself.

The second instalment was released for the Dreamcast in both Japan and Europe shortly before the system was killed in the European market, meeting reasonable sales. For the North American release, however, the writing was on the wall for its console of choice once again. *Shenmue* had outlived its second console. Demand for the game was still relatively high, however, with many fans importing the European release for play in North America, before the region's official release came almost a full year later for Microsoft's Xbox, which many observers consider a fatal mistake. The previous availability of the European import for the series' established fans greatly reduced the title's sales. Perhaps an even larger issue was the jump between consoles itself. At the time, the Xbox remained an expensive piece of hardware, staving off many Dreamcast owners who may have considered purchasing Microsoft's console in order to continue the series. In addition, Xbox owners who had not previously owned a Dreamcast were left with the second instalment of a story-driven game – a title that picks up in the

MAGIC MOMENTS

DOBUITA

It's hard to explain just how magical the first trip to Dobuita could feel at the time of *Shenmue*'s release. The number of unique characters, the ability to talk to them all in full audio. The freedom of being able to go to the arcade, or drop in to the Tomato Convenience Store. Being able to explore the town and its shops. It remains, to this day, one of our fondest memories of modern videogaming.

"If every Dreamcast owner had purchased a copy, the production would still have lost money"

» Anyone who has ever played *Shenmue* is extremely familiar with this scene, and with sneaking into Dobuita the back way so you won't get harassed to buy him yet another soda.

» Ryo's morning forklift race goes a long way to both kick the day off and show just how much workplace health and safety regulations have changed over the years.

SHENMUE III

Through the long years since the release of *Shenmue II*, the sizable *Shenmue* fan community has not suffered silently in its desire to see the series continued. There have been the more conventional campaigns aimed at getting Sega's attention, including mass mailings of letters, an online petition that has earned over 60,000 signatures, and general forum griping. There have also been some very inventive and interesting campaigns, such as the mass mailing of toy capsules to Sega's offices.

All the hard campaigning has appeared to work however, as *Shenmue III* is finally being made and its creator, Yu Suzuki is back at the helm. First announced in 2015, the project was successfully funded on crowd-funding site, Kickstarter and reached its $2 million target in just eight hours. The game is currently due for release in 2019 and is being published by Deep Silver. Fans have plenty to keep themselves occupied in the meantime, though as Sega is also releasing HD remasters of the original two games. Finally, it's good to be a *Shenmue* fan.

FLASHBACKS

By killing off Iwao Hazuki in the opening moments of the game, the story writers were left in the difficult position of making you truly care about his death retroactively. It was done predominantly with sepia-tinged flashbacks, building his character in the early stages of the game, and it certainly worked. You'd need a heart of stone to sit through Iwao's training and feel nothing.

NOZOMI IN THE PARK

We never fully understood why it was that Nozomi chose to finally tell Ryo about her feelings for him until shortly after the death of his father – it just seems like bad timing. Regardless, by the time you reach this point, you're likely pretty invested in the romantic subplot between the two. It's one of the rare points of the series where you wish that you had just a little more control over what Ryo says.

LOST BROTHER

Mark's quest to discover the fate of his lost brother provided more than one great moment in the latter part of *Shenmue*. This scene stands out as the best example. It's hard not to let your heart go out to the fellow as he begins to open up to Ryo regarding his suspicions and fears.

SAIL AWAY

It may be a little obvious, but it's hard to discount *Shenmue*'s final scene when discussing the game's magic moments. It's impossible to stay as implacably stoic as Ryo himself as he sails away from everyone in his life, from everything he knows, to continue his quest.

middle of a story they have not become attached to. All of these factors came together to form a death sentence. Sales were dismal.

Any possible third entry was left in a nearly impossible condition. It had no console and, in the minds of the executives, no market. To continue the series, much of the initial cost and time spent on character modelling and environment building would need to be abandoned and re-created, making any possible climb to profitability for the series a steep and difficult one. Due to the sudden cancellation of the series, conjecture has been widespread for years as to what state the third in the series was left, with some even maintaining that a playable build exists somewhere, however unlikely this may be. It was clear that the Dreamcast would not be continuing far into the future during the production of the second game; Sega had no intentions of building another console to shift development to, even if it felt that it could be made profitable.

All of this logic, however, couldn't kill all hope of playing out just a little more of the *Shenmue* story. We had to ask Hirai if he was aware of any development on a third instalment in any form. This was all he had to say on the subject: "There was none that I know of, but I personally would love to see this saga continued."

Although there have been several fan-based campaigns for a third *Shenmue*, Sega has been stoic regarding the possibility of a third entry, often citing the poor sales of *Shenmue II*, and Sega officials have been clear that there are currently no plans to continue the series. Regardless of official word, there have been several hoaxes over the years regarding pending announcements from Sega, some of which have included footage from an ill-fated tie-in called *Shenmue Online*: a massively multiplayer conceptualisation of the *Shenmue* universe publicly announced in 2004 as a joint venture between Sega and JC Entertainment.

Development work on *Shenmue Online* ran into difficulties a year after its announcement when JC Entertainment withdrew from the project. Due to the nature of the joint development agreement, it became unclear as to who would continue to hold the rights to the *Shenmue Online* concept. Seemingly, Sega did continue production on the title for some time after the split, but little to nothing has been heard about the project for several years. Although it has never been officially announced that development has been cancelled, it seems unlikely that the game will ever see the light of day.

In the face of these cancellations and years of delay, *Shenmue* fans were handed some hope recently when Sega announced the inclusion of Ryo Hazuki in the kart-racing title *Sonic & Sega All-Stars Racing*, a decision made by Sumo Digital that garnered much attention. Ryo would pop up again in Sumo's superb sequel and he's also getting ready to feature in HD remasters of the original two *Shenmue* games. Lastly, and perhaps most importantly, is the announcement of *Shenmue III*, which should finally put to rest many questions fans have about the series.

» Although many gamers preferred the Free Battle system, the QTE fights could be quite cinematic.

» The rumours about what happens when you swallow watermelon seeds are true, apparently.

Thanks to Tak Hirai, James Mielke and all the folks at Q Entertainment for taking time to make our interview possible and to circumvent any language barrier between us.

HALO™ COMBAT EVOLVED

Halo was the game that changed a genre and helped Microsoft gain a foothold in the industry. Adam Barnes delves into how the evolutionary shooter was made

IN THE KNOW

» **PUBLISHER:** MICROSOFT

» **DEVELOPER:** BUNGIE

» **RELEASED:** 2001

» **PLATFORM:** XBOX

» **GENRE:** FIRST-PERSON SHOOTER

When you think of *Halo* you think of multiplayer FPS and the importance of narrative in a game's campaign – both very *modern* concepts. Indeed, the franchise modernised the FPS genre, leading to radical changes in the approach of rival series. So when a game is notorious for being 'modern', for being 'fresh', it's hardly a surprise that you forget quite how *old* it really is. The original *Halo* debuted some 13 years ago, so we're stepping back to remember just how it managed to revolutionise a genre.

The irony, however, is that *Halo* wasn't born out of an intent to innovate shooters; in fact, it didn't even begin life as an FPS. "We were in preproduction for over two years, starting back in 1999," says Marcus Lehto, art director on *Halo: Combat Evolved* and the only developer to begin work on the game alongside Bungie co-founder Jason Jones. "The initial beginnings of *Halo* started out using *Myth: The Fallen Lord*'s engine and it was a truly open-world exploration game. Big, big, huge worlds; a block of islands that you could travel to. It was a top-down, *Commando* 'lead your troops from the sky' type of thing." Though Bungie had already cut its teeth in both the RTS and FPS genres with *Myth* (1997) and *Marathon* (1993) respectively, it was still a fairly small-scale developer. Yet in spite of this relative obscurity the project was kept completely under wraps, even internally. "In those early days there was a ton of secrecy around *Halo*," reveals Michael Evans, who would later become *Halo*'s lead multiplayer designer after shipping *Oni*. "I can't remember ever seeing an internal build of the RTS or the third-person version of the game. I do recall playing a really early version of multiplayer which was just on rolling hills; I am not sure if there was even a game mode back then. A very early piece of *Halo* trivia is that there was a build where one designer's head was much larger, to make him easier to headshot."

In time the *Halo* team grew and what became apparent was the connection between the player, the world and how it was meant to be explored. The sense of openness and freedom had been a core concept for the game from the beginning, and a top-down view was just not going to work. "So we converted part of that game prototype into a third-person shooter," states Marcus, "and it lived as a third-person shooter for some time. It was really interesting, even at that early time, but it quickly became apparent for those early days that the kind of control and the kind of connect that we needed from a player perspective needed to be in first-person."

It was around this time that Microsoft began to get involved with Halo; Microsoft was gearing up for the release of its debut Xbox console and it needed games. Interestingly though, Halo was originally scheduled to release on PC and Mac simultaneously – a fact that had been so important to Apple and its newfound approach to gaming at the time that Steve Jobs announced the news at the 1999 Macworld conference. However, Microsoft was so interested in Halo, so keen on the importance it could have for its newcomer console, that the firm bought Bungie in June 2000. "I think internally by and large we just wanted to make games," recalls Michael, "and the Xbox was very exciting for PC game developers. There were some

» *Halo* wasn't the first game to create unique enemies that fought in different ways, but the way they each changed how you yourself battled them was new.

> **"Halo was a top-down, Commando 'lead your troops from the sky' type of thing"**
> Marcus Lehto

» Marcus Lehto worked on *Halo: Combat Evolved* as its art director. He now works for V1 Interactive.

» The story of the Halo ring and its ultimate use is surprisingly compelling, building upon the mystery of the Covenant, the Forerunner and the religious imagery.

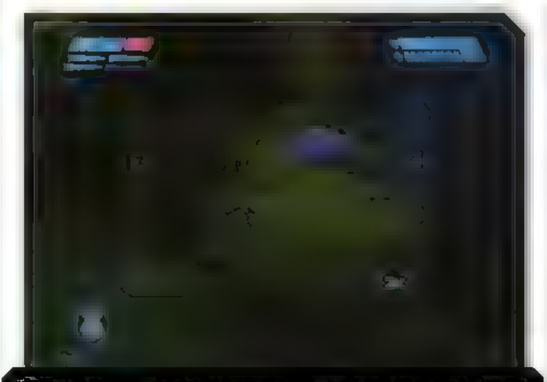
MAKING THE MASTER

Marcus Lehto on the evolution of a gaming icon

"He went through quite a bit of iteration in his early days," says Marcus Lehto of Master Chief's design. "I created the Master Chief, the Warthogs, the Pelican, the Halo ring, everything. It was really fun, initially, to build these things that became a kind of iconic fixture of the universe." John-117, to give him his real name, began life as a super-soldier ideal, even back when *Halo* was planned as an RTS. Marcus describes the Chief as originally being little more than a ubiquitous armoured character who "clearly didn't have any flavour whatsoever". Then Master Chief became more akin to an "anime-style" character, but even then was still "too slender, too feminine". Marcus decided then to "combine a human being with a tank". The armour expanded, the helmet became a bigger design focus and Marcus brought a more utilitarian approach to how the Chief should look. "You want to make something that players can connect with," says Marcus, "and when they believe it works, there's a suspension of disbelief when it comes to playing the game."

people who left and some people who Microsoft decided not to take on – often I think foolishly. After the Microsoft deal, the Myth and Halo teams moved to Redmond." Though the acquisition was an appealing one for Bungie, none there could have predicted the effect it would have had on the aesthetic of Halo – a factor that would become key to its design. "[Microsoft] flew all of Chicago out to the Pacific northwest to the Seattle area," adds Marcus. "We were struck by the amazing beauty of the cascade mountains, the ocean, all of the peninsula to explore and that massively influenced the landscapes of Halo: the exploration value of it, the sheer cliff walls, the big waterfalls and all of that kind of thing." The change in scenery also influenced the freedom to explore in the game. "We felt that [Halo] provided a really unique sense of freedom for the player. Putting them into what is equivalent to a giant national park, for all intents and purposes, and allowing the player to free-roam and explore this giant natural wonderland that was the terrain of Halo." This freedom had as much effect on the gameplay as it did its visual design. "It was funny how that kind of worked," says Jaime Griesemer, one of the key designers. "I think the open environments came before the open shoot design, if that makes sense. So we had these environments that we wanted to build that had lots of multiple paths and these big, wide-open areas – because we could do that for the first time really in a shooter – and we had to work out what that meant for our mission design. It wasn't the opposite way where we were like 'oh we want to have these free-form missions where

» The Warthog is perhaps one of the most iconic vehicles in gaming; unsurprising when its unruly handling makes for many a memorable moment.



» Every weapon had its pros and cons, a necessary balance if restricting players to two weapons at a time.

you can do things in any order'. It was sort of forced on us by the fact that we had this environment and we can't constrain what order you go through things, so we're just going to have to make it work."

This sense of scale and exploration was something of a revelation for the genre, which at the time largely comprised two categories: enemy-packed kill rooms, like in *Doom*, or more linear, corridor-led games such as *GoldenEye 64* or *Medal Of Honor*. As a result, the game's name was important. It was Microsoft that later added the subtitle 'Combat Evolved' to *Halo* as part of a marketing decision to help it stand out from other military shooters, a theme that was becoming particularly popular on the PlayStation. Whether it worked as a marketing exercise it's hard to say, but what isn't is how key this free-form method of gameplay was to *Halo*'s success – it felt brand new. Of course, alongside its more open environment and gameplay design came other issues, such as how to create enemies capable of tackling any number of potential combat actions. "We couldn't script an AI in this open environment that will be responsive and be able to react to all the different situations the player can create," says Jaime, adding that Bungie had to "write an AI that can actually behaviourally be able to deal with all the situations".

The inclusion of a regenerating shield, too, spun the genre on its head – a feature that has sadly spiralled out of control in modern-day shooters where you'll spend most of the game cowering behind concrete blocks. Then there was the limit of only two weapons, adding to the free-form gameplay and creating a strategic element to proceedings. "I think the main goal with the Chief as a character was that he sort of always has the ability to use the tools that he has at his disposal well enough to accomplish his objectives," says Jaime. "So you don't always get to choose what weapon you're gonna have, you don't always get to choose what vehicle you're gonna get, but the Chief is just so incredibly competent at everything that you're going to be able to use whatever tool you can scrounge up that you're going to be able to overcome whatever fight you're in." But what is interesting is how this design choice was just as much due to the restrictions of moving from PC to console as it was a gameplay factor: "You don't have an

GAME CHANGERS Why Halo stood apart from everything else

OPEN ENVIRONMENTS

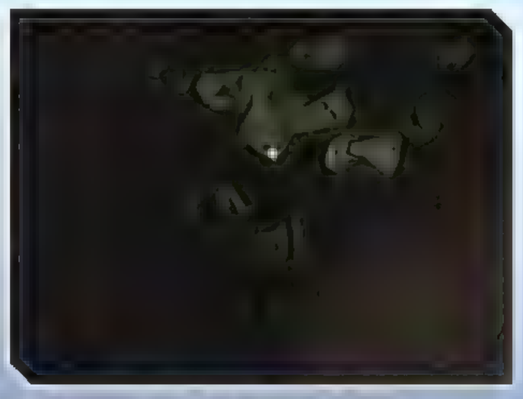
remained the central pedestal which the game was designed around

LIMITED WEAPON LOADOUTS

the combat by limiting Master Chief to only two weapons at a time

REGENERATING SHIELD

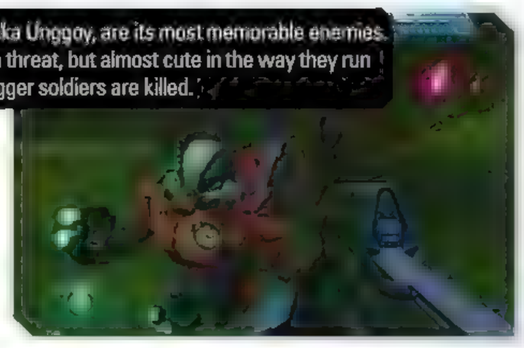
the way not only *Halo* was played but future shooters too



CONSOLE MULTIPLAYER GAMING

working Xbox Live system set a precedent to what needed to be done for console multiplayer

» Interesting tidbit: Marcus Lehto – who designed most of the aesthetics of *Halo* – stamped his name everywhere, even his initials on the boots of the Chief.



» The Grunts of Halo, aka Unggoy, are its most memorable enemies. They're weak, barely a threat, but almost cute in the way they run away each time the bigger soldiers are killed.

» A HD revision was released in 2011. It will be included in the incoming *Master Chief Collection* for Xbox One.

> **"I think Halo wasn't [as much] an innovation in first-person shooters, but more of an almost simplification or purification of the genre"**
>
> Jaime Griesemer

entire row of number keys to switch between multiple weapons, you have at most one button, so we kind of had to limit the number of options you had available. And also one thing that was a big deal at the time was memory, so if we could let you arbitrarily switch between ten different weapons, what would happen was you would switch to one we didn't have alerted in the memory and so you wouldn't be able to draw anything for a third of a second."

The move from PC to Xbox was a costly one, going from a world of possibilities – at least on a technical level – to one that required overcoming a lot more restrictions and barriers. In many ways, believes Jaime, this move was fruitful to *Halo* in the long term, since it required Bungie to think about the game's design rather than simply expand upon what it had done before. "When you have no outside constraints – and the PC is very much that kind of platform – you just add," claims Jaime. "You just build on what came before. You just do the same thing you did last time but plus one, and you're never forced to cut or limit or restrain yourself and a lot of really good design happens when you run into these arbitrary constraints that you can't change. It lets you get rid of the cruft that builds up. And I think *Halo* wasn't [as much] an innovation in first-person shooters, but more of an almost simplification or purification of the genre."

But where *Halo* really felt important – at least to a generation of students, anyway – was in its multiplayer. Microsoft had designed a forward-looking console, targeting the increasingly popular generation of connected, media-driven consumers, and *Halo* was going to be a core pillar of that through its multiplayer. Xbox Live didn't launch alongside the console, however, and with it the connected multiplayer that *Halo* was originally built for. "There was some political conflict over *Halo* networking back then," says Michael. "A small group of guys on the Xbox side of the fence thought it was a bad idea to have networked games before there was Xbox Live. Then later there was a desire to support automatic networking only – ie you would become a server if nobody else was on the network and if there was a server you would just auto-join it. We really thought that the game would be awesome in college dorms." And it was. The decision to include a LAN setup arguably made *Halo* stand out, especially among students. Sony had already brought gaming out of the bedroom and into the living room with the PlayStation, and *Halo* grasped onto that idea. With hours dedicated to deathmatches or alongside team-mates in co-op, it was brought to the very forefront of these new, modern gamers – and word spread. Michael admits that much of the content associated with *Halo*'s original multiplayer was contract work, however, including the likes of Chris Carney who now still works at Bungie to this day. While internal designers got stuck in with map and mode creation where they could, the majority of multiplayer was made by outside hands. Its foundation, then, relied entirely on those solid gunplay mechanics, but it was clear soon after *Halo*'s release that this would be its legacy.

"I think we were all true believers," says Michael, claiming the entire team knew it had made something very special. "The long-lasting legacy of the game has been a pleasant surprise as well," he adds.

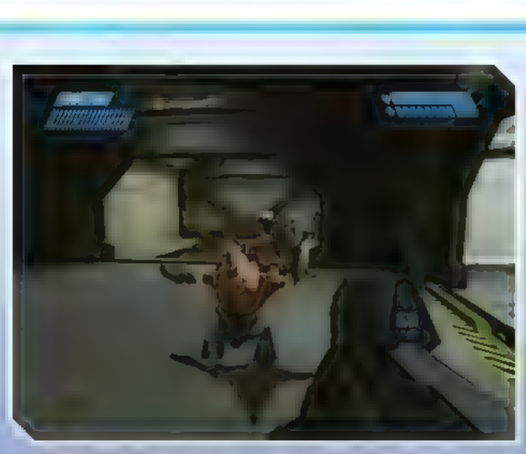
And while it's no doubt been a surprise to those who worked on it, it's quite easy to understand the long-term impact Bungie's game has had. ✱

DEVELOPER HIGHLIGHTS

MARATHON
SYSTEM: MAC, PC
YEAR: 1993

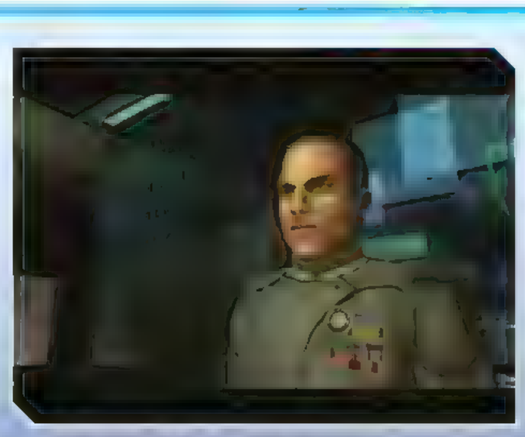
MYTH: THE FALLEN LORD
SYSTEM: MAC, PC
YEAR: 1997

ONI (PICTURED)
SYSTEM: MAC, PC, PS2
YEAR: 2001



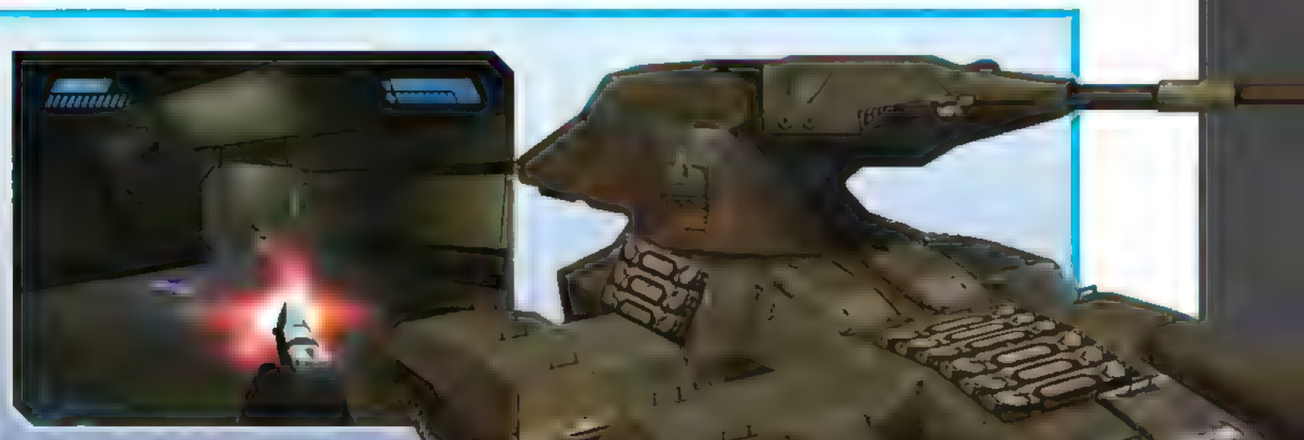
ADAPTIVE AI

[illegible] combat routines to work so well in these large-scale open environments.



ADDING IN A STORY

[illegible] together in a way that few games had done as well at the time.



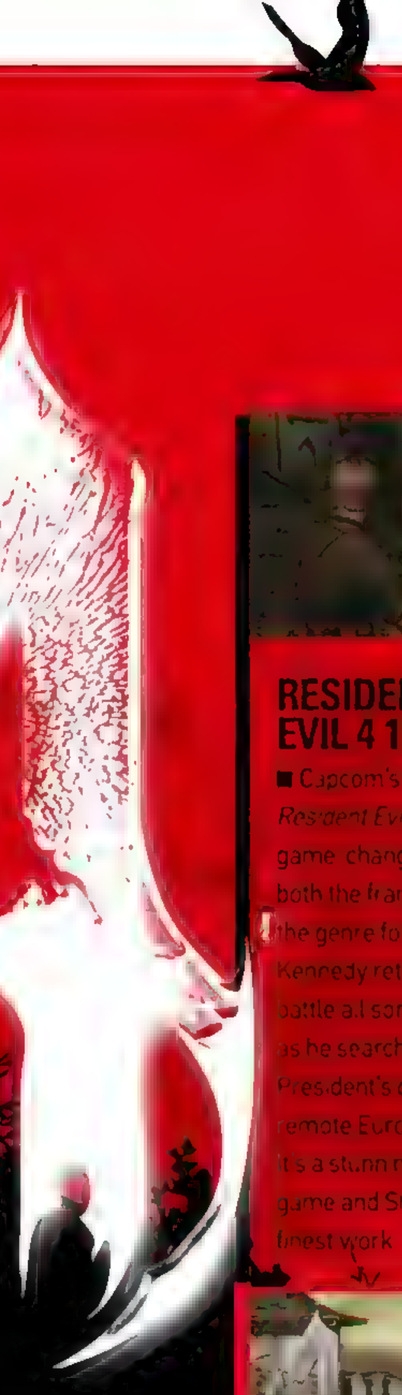
CONSOLE CONTROLS

[illegible] designed with the controller in mind and changed the way FPS games were played on console.

resid

Once a reason to own a GameCube and to this day one of the best games in the series, Resident Evil 4 was always worth buying at a high price. Luke Albigés sacks off bingo to learn more about the creation of a genre-defining monster. It's game time...

Resident Evil 4



Oddly, the best thing about *Resident Evil 4* is that it isn't really a *Resident Evil* game. With the established survival horror formula perfected by three PlayStation games and several spin-offs, both the development team and fans wanted something new, something different, something challenging. This didn't come easily for Capcom, with the team exploring supernatural elements and the paranormal in early development as workarounds to the growing zombie fatigue, but it's hard to argue that the final product wasn't worth the wait. Eschewing static camera angles for an over-the-shoulder affair that quickly became the staple for third-person shooters and leaving the brain-munching idiots to rot in order to let a parasite-ridden populous take centre stage, this was no longer survival horror – it was survival *terror*.

It's a subtle differeance in terms of language, sure, but it's an important distinction to make. *Resi*'s foundations were in classic B-movies and horror films – static cameras allowed for staged scares and classic cinematography techniques, the action contained and controlled by the director at all times. While elements of horror and certain tropes remained in *RE4*, they were no longer the be-all and end-all and the fear of stumbling into a small army of villagers armed with rudimentary tools or just one obvious threat (the likes of mini-bosses Dr Salvatore and El Gigante reminiscent of stalking threats Mr X and Nemesis in previous games) without the provisions or skills to see the task through proved genuinely terrifying. Horror is a jump scare around the next corner when the cameraman decides to reveal it; terror is finding yourself out of your depth only to hear the ominous revving of a chainsaw nearby. See? There's a difference, alright...

"Our focus was on creating something completely new with *Resident Evil 4* and pushing the series in a new direction," explains producer Hiroyuki Kobayashi. "In the course of development, we created prototypes and tested them out – if we weren't satisfied with them, we started from scratch. In the end, we went through four different versions of the game before settling on the direction in which we wanted to go." Psychological horror was then still very much *Silent Hill*'s domain, while the paranormal stuff Capcom tried sort of went against the grain of a series grounded in its own hokey science with various strains of virus, yet trying typical zombies only made the game feel stale and familiar. "By that point in the series, zombies were simply no longer scary to players," Kobayashi confirms. "They had become cannon fodder that you could defeat with ease. We wanted something not like the enemies you'd seen before that would bring back the sense of the unfamiliar and the frightening, and that was the genesis of Los Ganados."

The parasite-based nature of these new definitely-not-zombie enemies was the light bulb moment Capcom had been waiting for. As well as granting full creative freedom to go nuts with new and inventive enemy types – from mutated bugs that had been exposed to the parasite to once-human hosts with an aptitude for (or lack thereof) these powerful parasitic friends – it also managed to tie into the existing lore as a new line of biological weapon experiments, ticking every box while still

RESIDENT EVIL 4 101

■ Capcom's fourth *Resident Evil* release was a game changer, reinventing both the franchise and the genre forever. Leon S. Kennedy returns and must battle all sorts of enemies as he searches for the President's daughter in a remote European location. It's a stunning action game and Shinji Mikami's finest work.

IN THE KNOW

» **PUBLISHER:** Capcom
» **DEVELOPER:** Capcom Production Studio 4
» **RELEASED:** 2005
» **PLATFORM:** Various
» **GENRE:** Action

» Take the chainsaw dude out quickly or you'll suffer a very gruesome death.

» Even today, *Resi 4* remains one of the best looking games on Nintendo's console.

» Leon's tense battle with Krauser remains one of the best QTEs we've ever seen.

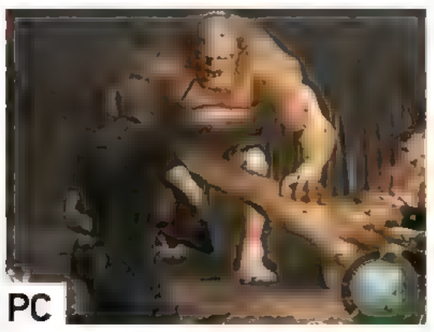
CONVERSION CAPERS The best and worst versions of Capcom's classic

PS2

■ While much was initially made of *RE4*'s GameCube exclusivity, it wasn't long before the game appeared on the significantly more popular PS2... and with additional content that wasn't in the GC original, as the ultimate kick in the teeth for the Nintendo faithful.

Wii

■ Regarded as the definitive version of *Resi 4*, thanks to motion controls which added to (rather than detracted from, as was often the case) the action. With the best visuals, the best controls and all of the content included, this remains the best way to enjoy this all-time classic.



PC

■ Launching without mouse support is a sure-fire way to piss off the 'Master Race', and the weak port didn't help matters – PC hardware could do better and PC players expected better. Many will have missed out on a great game or simply played it on console instead.

HD (PS3/360)

■ Capcom hasn't exactly been on-point with its HD remaster game – *DMC* was passable, *REmake* a little better but this was not the loving makeover *Resi 4* deserved. If everything is going to look muddy anyway, why wouldn't you just stick with the Wii version?

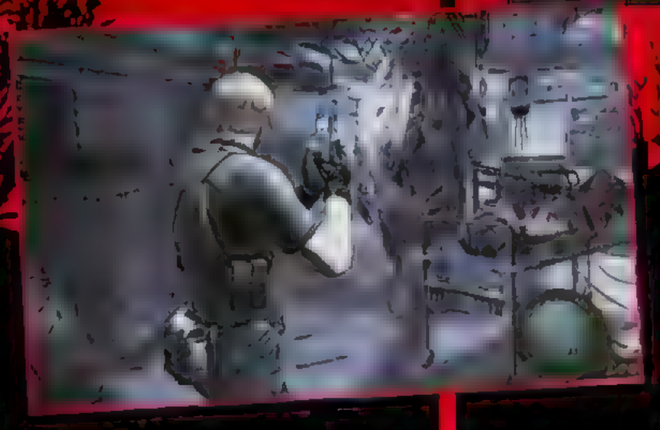
» The laser sight of your gun allows you to pick of individual body parts.

DEVELOPER HIGHLIGHTS

VIEWTIFUL JOE
SYSTEM: VARIOUS
YEAR: 2003

P.N.03
SYSTEM: GAMECUBE
YEAR: 2003

KILLER7 (PICTURED)
SYSTEM: VARIOUS
YEAR: 2005



» This nightmare is terrifying and requires lots of bullets to put down.

» Mercenaries was an excellent minigame and is in most later games now.

» The weapons of *Resi 4* are amazingly satisfying to use and occasionally messy too.

» The sniper rifle becomes especially useful for when you have to protect Ashley.

scrubbing the slate clean for a whole new roster of horrible foes and challenges to overcome.

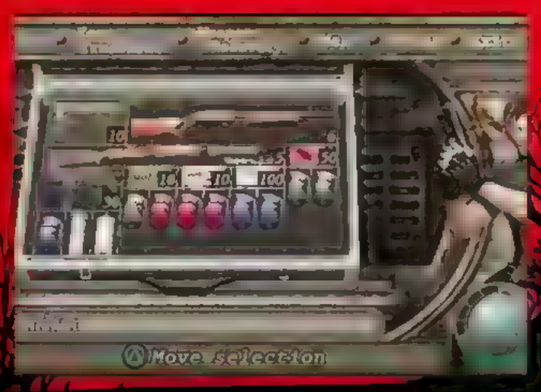
The shift of premise was necessary in order to avoid burning fans out on zombies, but the switch to more action-centric gameplay was a little less expected. "We took a look at games that were popular in the western market at the time, around 2005, and it was clear to us that games which let you aim and shoot with precision in that third-person style were the way to go," reveals Kobayashi. Many thought this shooter pandering was the downfall of the ill-received *Resident Evil 5*, but it turns out the wheels were already in motion to develop greater interest in the western market a full decade ago. Granted, later sequels have had a tendency to stride boldly into full-on shooter territory where *Resi 4* merely had a bit of a paddle (be careful of Del Lago, guys...) but still, if you want to point fingers and name a culprit for the recent action bent, you'll only find yourself prosecuting one of the greatest games ever made.

It's all too easy to take great game design for granted, and even from the various pre-release builds of the game, you can really get a feel for just how many different camera placements the team must have gone through before settling on the version that shipped. Beta footages shows a hybrid of fixed and aim-based cameras, while you can see various heights, depths and angles that all offer different takes on the action in that early footage. "Getting the position of the camera behind the player just right was a very arduous process of refinement," Kobayashi admits. "It's just one part of the game but you really need to nail it as it influences every other aspect of the gameplay." Ever since, we've played countless third-person games where the camera just feels 'off' in a way that's hard to describe – too floaty, perhaps, just slightly too far away or maybe too stiffly attached to athe player character – which just adds more weight to the argument that *Resi 4* did this better than pretty much all games that had come before and indeed many since. Way to go, Capcom.

> **"It was clear to us that games which let you aim and shoot with precision were the way to go"**
> Hiroyuki Kobayashi

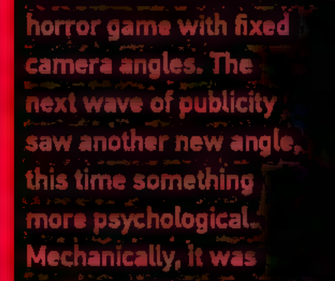
There were other challenges ahead of the team due to the quicker pace of the game, too. Players would quickly grow used to enjoying huge-scale encounters (either in terms of enemy numbers or sheer size) and where the tension of the original games allowed for minimal enemy placement for maximum effect (thus slowing the rate at which players could adapt to each enemy), having them appear in bigger groups and more frequently meant that something had to be done to avoid having people feel they had mastered a new enemy type in a matter of minutes. When pressed for the greatest design challenge during development of this game, in fact, Kobayashi cites this exact issue as the main hurdle in the game's development. "Probably the process of working out what kind of creatures should show up in the second half of the game," he confirms. "By that point you've become more accustomed to Ganados so keeping things interesting while remaining true to the atmosphere of the game is a difficult balance."

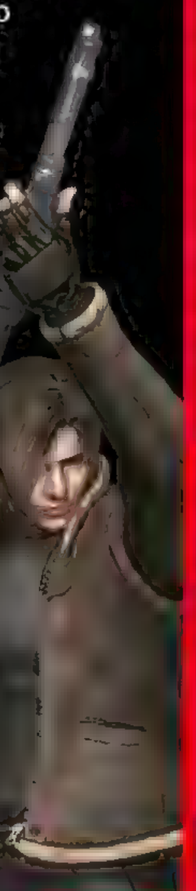
Capcom clearly had its fair share of challenges in steering the franchise in this bold new direction, so it's interesting how the team decided to pass these onto the player. One such example of this is the inventory system – gone is the simplistic small grid where every item, regardless of bulk or weight, takes up one slot, replaced by a much larger grid in the form of the upgradeable attache case, where item size determines how many 'blocks' it takes up. The existing system for micromanaging your inventory had become stale and overly simple by this point (just take an Ink Ribbon, a healing item, your primary weapon and some reserve ammo, leaving room for ferrying puzzle items around) but this ingenious new mechanic made us think about what we were carrying and why, becoming almost a mini-game in its own right. "Funnily enough, Tetris was the inspiration," Kobayashi laughs. "I thought it would be fun if you had to play a puzzle game where you tried to fit the pieces in together as best you could without any gaps to maximise efficiency."

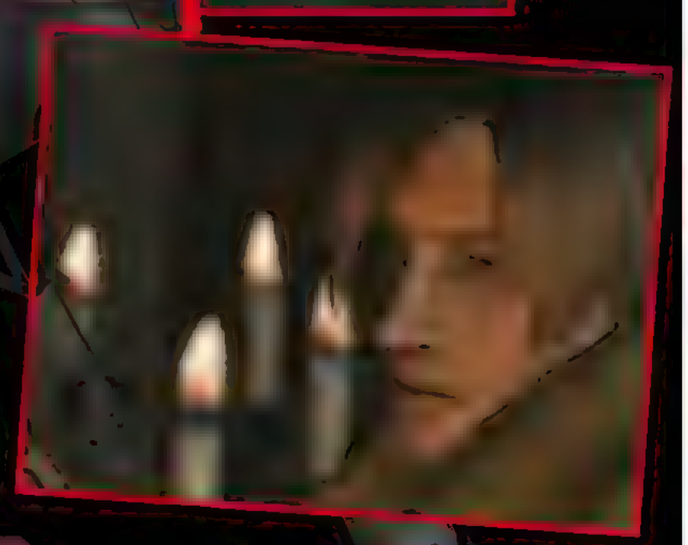


RESIDENT EVIL 3.5

There were actually a number of prototypes and demos made for *Resident Evil 4* that were pretty far removed from the game we actually got. The initial announcement trailer for the game was set in a castle, setting up a more gothic tone for what was to be a more traditional survival horror game with fixed camera angles. The next wave of publicity saw another new angle, this time something more psychological. Mechanically, it was halfway between classic *Resi* and *RE4* as we know it – camera was fixed for gameplay but would swing into Leon's shoulder whenever a weapon was aimed. There was reportedly a third dry run that was never shown which reverted to zombie enemies, apparently canned early on for feeling to familiar. In each of these early directions, however, you can see a little bit of the DNA that makes *Resi 4* the classic it is.







While it might be one of the all-time greats, however, Resi 4 still **has a lot to answer for. Its use of** QTEs – which Capcom managed to employ to great effect – became something of a touchstone for other developers looking for an easy way to incorporate cinematic events into their games without fully wresting control away from the player, but few managed to pull them off nearly as well. Their proliferation across games of all kinds quickly made players come to hate them, although Capcom's execution of them was generally masterful – just as jump scares could once hide around any corner, QTEs instead tied into the new emphasis on terror. Mashing buttons to run away from a collapsing pillar, for instance, wouldn't have been nearly so intense if all you had to do was just hold down on the analog stick for a bit, and never knowing when that prompt would appear left you clinging to your controller at all times, just in case.

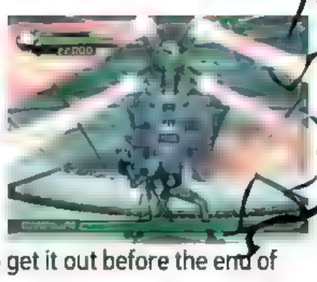
QTEs also formed the backbone of one of the game's most memorable encounters – the knife fight with Krauser towards the end relied heavily on prompted inputs (and is Kobayashi's favourite battle in the game – "I really like the boss fight against Jack Krauser. His knife moves were so cool!" he enthuses), allowing the battle to build way more tension than it could have managed within the confines of traditional control. That's the reason games like those made by Quantic Dream (*Heavy Rain*) continue to employ such mechanics so heavily, as it leaves players free to focus on action and narrative until such a time as they are called upon to take action. They're also used to decent effect in Telltale's new twist on the classic point-and-click formula with games like *The Walking Dead*, showcasing how *Resi 4*'s masterclass in QTE use continues to permeate the market and evolve today.

Kobayashi seems delighted that his game is still so revered a decade on and that fans remain vocal enough to land it a spot in our all-time top ten. "It's an incredible honour that makes me very happy indeed," he tells us. "It's been ten years since the game came out, and it's great to see how much the fans have loved the game in that time. In 2016, *Resident Evil* as a series is coming up to its 20th anniversary, and not just me but everyone at Capcom will work hard to keep making great games for our fans to enjoy!" It's fair to say that most *Resi* fans have fallen off the hype train in recent years, disillusioned with the franchise's descent into action and longing for the return of survival horror. While new announcements like *Umbrella Corps* might not make it seem like it, Capcom *is* listening and many of its statements and calls to arms regarding the seventh entry have been about taking the series back to its roots – something likely to go down well today, given the boom in the indie horror scene, the success of the remastered *REmake* and the evident enduring popularity of this outstanding game.

THE CAPCOM FIVE

The quintet that defined the GameCube for Capcom

P.N.03



■ We're rather fond of the first of Capcom's planned quintet as it plays like an old school shoot-'em-up. Not everyone was pleased however, with some feeling Capcom rushed to get it out before the end of the financial year and that it suffered as a result. Mikami's later work on *Vanquish* serves to show what could have been had Vanessa's ill-fated adventure been allowed a little more time in the oven...

VIEWTIFUL JOE

■ This unapologetically hardcore platform-brawler succeeded on many levels – bringing back a long-dead genre, adding another amazing character to Capcom's star-studded roster and delivering a game that turned an obvious gimmick into an excellent core gameplay pillar. It wasn't huge but multiple sequels and Joe's inclusion in *Marvel Vs Capcom 3* prove that there's a lot of love for this game.

RESIDENT EVIL 4

■ A stunning reinvention of the horror series, nay genre, it'd be hard to argue against *RE4* being the highlight of the Capcom Five. GameCube's best-looking game at the time and a peerless lesson in how to rejuvenate a franchise, this is deserving of its classic status and could easily be argued to be the game of its generation. Yes, even without Barry Burton. We don't understand it either.

kILLER7

■ Stylish, confusing, controversial, divisive, just plain weird... *killer7* is all of these things and then some. Combining light puzzle-solving with on-rails shooter elements across seven different playable characters, *killer7* is one of the most original and inventive games ever green-lit by a major publisher. You'll either love it or hate it, but you'll need to play it to know which camp you fall into...

DEAD PHOENIX

■ Sadly, the Capcom Five will never be completed – this *Panzer Dragoon*-esque shooter was canceled prior to release. It wasn't all that difficult to see this coming, to be fair – the other four games had a lot of pre-launch build-up (including early versions being shown that were quite different to what we actually got), while only a handful of screens exist for this doomed shooter.

SKYRIM

The fifth game in the long-running Elder Scrolls series has been remade and re-released more than any other in the entire franchise. Why? Because it's one of the deepest, most immersive role-playing games ever made – and it deserves to be played by all

It felt like an aeon had passed between the announcement and launch of Bethesda's latest core *Elder Scrolls* game, *Skyrim*. In reality it was 11 months from confirmation to it being in our hands, but the hype had reached such instant fever pitch it was hard to go a day without talking about the damn thing.

It was going to be the biggest open world, with the most freedom – you could fight against *dragons*! How could any other game possibly compete? How could we sleep easy knowing we still had to wait for *Skyrim* to launch? How could it *possibly* live up to the hype? Well, come November 2011, it... didn't.

There was no way any game could live up to the sheer power of the build up behind *Skyrim*, so it was little surprise we heard detractors and naysayers from its release day – and we still hear them today. But while it wasn't 100 per cent perfect, *Skyrim* still ended up an absolute masterclass in the world of immersive, deep action-RPGs – and we still hear *that* today, too.

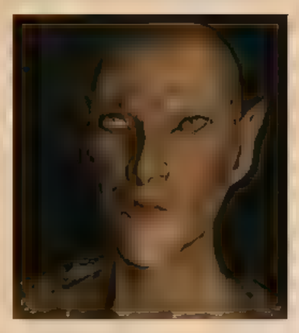
Starting out as any other *Elder Scrolls* game does – you're a prisoner and you end up freed – *Skyrim* asks you to customise your character with choices of name, race and looks all factoring in, before setting you loose in the midst of a dragon attack. You see, dragons have returned to *Skyrim* for the first time in ages, and this is bad news for any native of the realm who doesn't want to be set on fire and eaten.

From there your quest begins – visit this person, they can tell you where to go next, the prophecy can be revealed, the power of the dragons can be yours via the dragon's language, you can

» It's not just dragons – vampires became a big part of *Skyrim* thanks to the *Dawnguard* add-on. And yes – you could be one.

Children of Nirn

The playable races of Skyrim



Altmer

■ The high elves, as other races know them, are skilled in magic – as well as arrogance. 'Haughty' is a fair descriptor for the lanky, golden ones.

Argonian

■ Not only are the lizard-like argonians great at lockpicking, their natural immunity to disease and ability to breathe underwater is a great boon for *Skyrim* newbies.

Bosmer

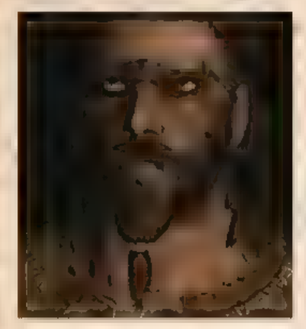
■ Our diminutive forest-dwelling friends, the wood elves are so good at archery they've become a meme in many an online community. Archers are OP, yo.

Breton

■ Powerful magicians, bretons are also able to absorb or resist magical damage thanks to their natural abilities. Unsurprisingly, they're usually mages.

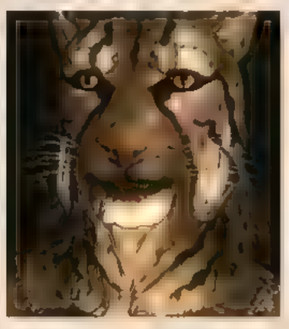
Dunmer

■ Morrowind's natives, the dark elves are proficient in destruction magic – all the better for smiting those who make snide comments about them, which is common.



Imperial

■ The closest to a default human you can get in Skyrim. Based off Romans, imperials have the gift of the gab – as well as increased ability to heal wounds.



Khajiit

■ Nobody trusts a khajiit on Nirn – well, they are gifted at sneaking – but our (sometimes) friendly cat people don't have to be thieves. They're just really good at it.

Nord

■ Give a nord a mace, and they'll be happy. Give a nord a two-handed warhammer, and you'll be their friend for life. Skyrim's natives love a good ruckus.

Orsimer

■ Commonly known as orcs, the orsimer's large frames lend themselves to a fine capacity for handling heavy armour. They're not too shabby at the forge, either.

Redguard

■ They're not the biggest, but the redguard are easily the most naturally talented warriors in all of Skyrim – with blade and shield in hand, they're hard to beat.

» Battles with dragons are far more common than you might expect, but they're always good fun. Even if they do get a bit easy towards the end of the game.

» The College of Winterhold is home to some of *Skyrim*'s best quests – but if you enrol as a mage, you won't necessarily be trusted in these lands.

» Even years after its release, *Skyrim* still has the power to make you wander aimlessly through its countryside, mouth agape at the gorgeous vistas.

"The key thing is freedom; freedom to explore, to role-play, and to mod the game into something else entirely"

Nick Pearce

battle against the actual beasts, take a side in a rebellion, and generally save the world in an epic, dozens of hours-long adventure.

What makes *Skyrim* so very special, though, is that you're just as likely to do all of the above as you are to go on a flower-picking escapade, or to learn new recipes for horker stew. The end of the world can wait – we mean, it literally can wait: if you choose not to bother with the main questline, the random dragons prowling the giant world map won't appear and you'll be able to play through the majority of *Skyrim*'s side-quests without being hassled by the gigantic scaly fire-breathers.

In any other game it might have been seen as a negative that some players might immediately lose track of the central plotline and go off to do their own thing. But it's easy to see how Bethesda planned for this – you're not railroaded in a set direction or chided, or hurried on for dawdling. You can take your own time, do your own thing, live your own life, and pickpocket as many innocent farmers as you like.

This freeform approach to playing the game extended into *Skyrim*'s RPG systems – 2006's *Oblivion* had already made steps to make things less rigid, and in *Skyrim* it was even less so. Sure, you could concentrate on one or two sorts of powers, skills, or abilities – but at no point were you ever condemned to having to use them for the length of the game. Don't like how your character plays? Play a different way. Bored of being a bosmer archer? Be a bosmer with a warhammer.

It was layers on layers of freedom for the player, and while this lack of rigidity upset some of the RPG old guard, the fact is most of us fell in love with the opportunity to experiment *Skyrim* put in front of us. And then, as soon as you've learned its systems and explored its world, there's a large core story experience to play through. And it kept on giving.

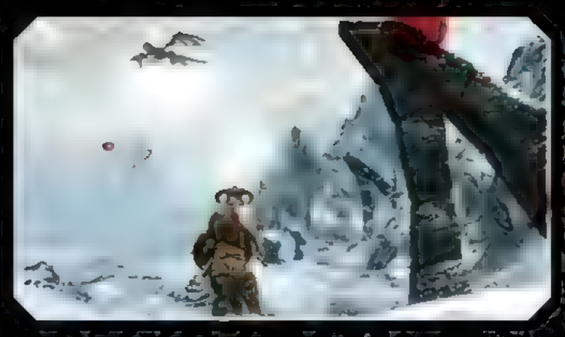
There were two main stars of *Skyrim*. First, naturally, was the dragons – the once-mythical,

now-real-and-angry creatures are tameable in a DLC add-on, but for the most part they're a menace. Early on in the game it's a toss-up between whether you'll be beating them down to absorb their soul – being the Dragonborn and all, as you are – or running away with your battleaxe between your legs as they take one too many chunks out of you.

» Enemies are a varied bunch, and you can often stumble upon a seriously challenging foe without any forewarning. Always be prepared for combat encounters.

The battles with dragons never stop being fun, and – thanks to *Skyrim*'s incredible orchestral soundtrack – feel like truly epic clashes every single time that they take place. They're also helped along by the fact that they're always taking place in *Skyrim*'s second main star: Skyrim itself. This is a truly beautiful, varied land in the north of Tamriel (the continent on which the *Elder Scrolls* series is set) that could have gone down the lazy path of just being cold and snowy, but it ended up being so much more. That's not to say there isn't much of the white dung on show – your treks through the many mountain peaks of Skyrim will present more than a few blizzards to contend with along the way. But from Solitude to Riften, Markarth to Winterhold, you're always seeing something different: arctic tundra, alpine forests, swamps, rolling meadows; giants tending to their mammoths, sabre-toothed cats

Conversion Capers



Xbox 360

■ While the PC was the superior original version, the 360's *Skyrim* wasn't half bad at all. Like playing the game on a midrange home computer of the day, it ran well, loaded quickly enough and didn't have a habit of destroying hard drive contents. Unlike the PS3's version...

PS3

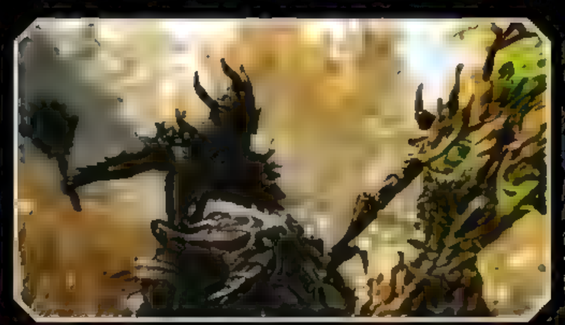
■ Of the original batch of *Skyrim* releases, it was the PS3 that fared poorest. Owing to the system's tricky architecture, Bethesda wasn't able to produce a flawless port out of the box. In fact, it took a few patches to get the game up to par with PC and Xbox 360.

Special Edition

■ Five years after the original's 2011 release, Bethesda brought out a remaster – complete with 4K resolution textures and other tweaks and requiring the Creation Club for mods to be used. Owners of the PC version received a free upgrade – a nice gesture for existing fans.

Xbox One

■ The Special Edition also made its way to the Xbox One, again seeing the first time Bethesda had allowed mods on a console version. Microsoft was more than open to the idea of players creating their own content, so Xbox One mods have seen some huge upgrades, changes and conversions.



PS4

■ A different generation and version of *Skyrim* arrived on PS4, with the *Special Edition* bringing with it the first taste of *Elder Scrolls* mods on console... to an extent. Sony's refusal to allow new assets to be introduced to the game means all mods have to use existing in-game elements.

VR

■ Both PC and PS4 received a virtual reality version of *Skyrim*, and surprisingly it is the full, complete experience. It's unclear just how many people have played through hundreds of hours with a headset on, but there's no doubt the scale of a dragon's scales is seriously impressive up close.

Switch

■ Initially laughed off as a bit of a '*Skyrim* on everything' joke, on release it soon became apparent this was the version a lot of people had been waiting for without even knowing. Adding in *Zelda* loot was a nice touch, but portable *Skyrim* was more than enough of a lure by itself.

» You, the Dragonborn, must put a stop to Alduin The World Eater's efforts to resurrect the dragons.

Best Skyrim Mods

Immersive Citizens

■ Immersive Citizens fixes one of *Skyrim*'s most notorious issues: unrealistic non-player characters. Improving their AI, the mod makes the regular folk of Skyrim much more like actual people – they run from fights they can't win, have better schedules, even travel from town to town at times. It's small, but essential for immersion.

The Forgotten City

■ An intelligent, smartly written mod that adds a new city full of a new voiced cast, quests, soundtrack and a storyline wrapping it all up very neatly. It even has time travel. When it comes to mods that add something special while remaining utterly faithful to the base game, the Forgotten City is up there with the best.

Enderal: The Shards Of Order

■ A total conversion five years in the making, Enderal is effectively a new game, completely free, that you plaster over the top of *Skyrim*. It offers dozens of hours of questing and exploring, new characters, races, powers and abilities, and offers brand-new graphics, sounds and voice acting.

Falskaar

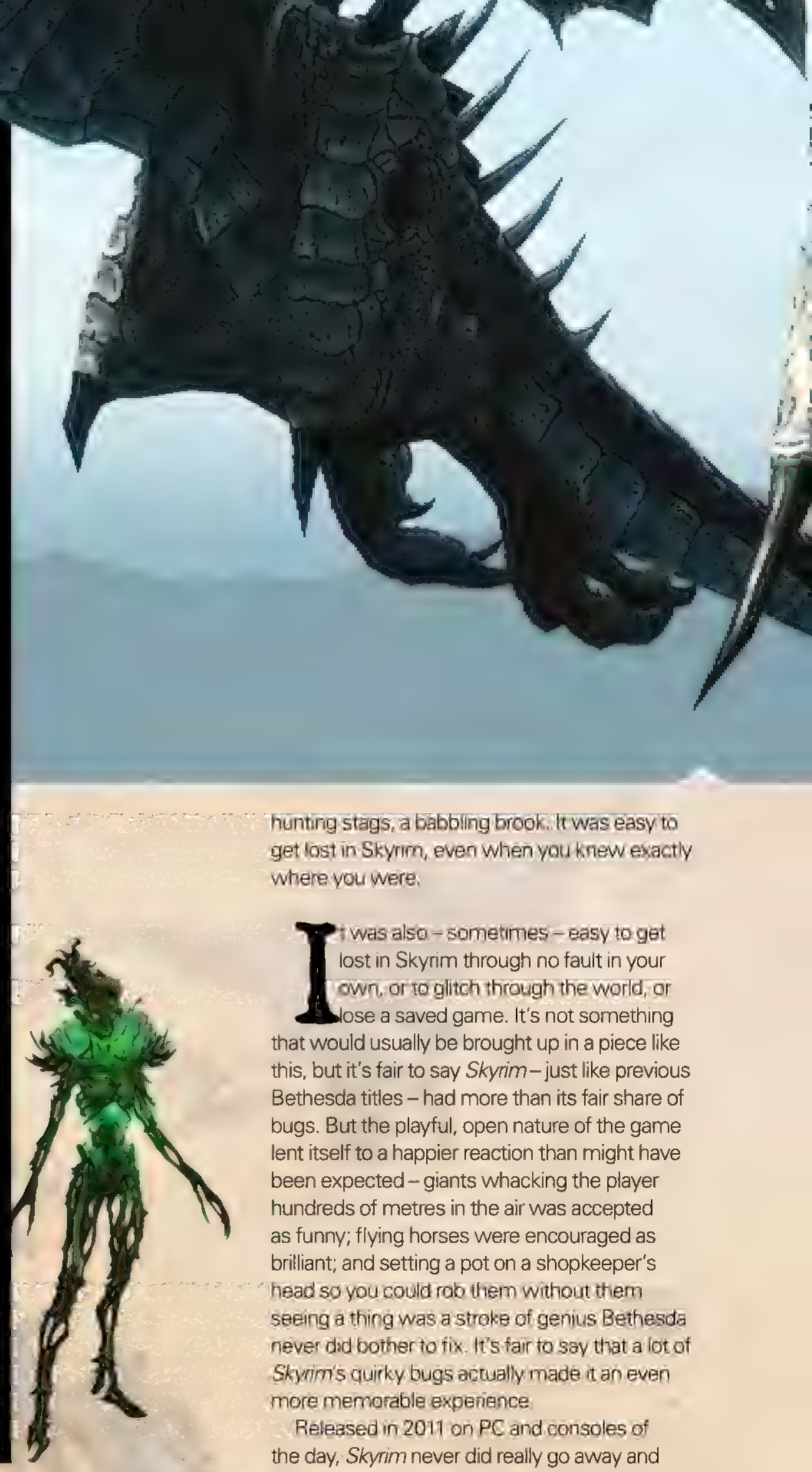
■ Adding around a quarter of the landmass of vanilla *Skyrim* and about 25 hours of content might seem like a job for a team of at least a dozen. So obviously Falskaar was made by a single 19-year-old – with the help of volunteer voice actors, writers, and some artists/designers, naturally. It is a brilliant mod, and well worth your time.

Stones of Barenziah Quest Markers

■ Some mods create new realms – even new games on top of *Skyrim* – but some of the best mods just fix something. The Stones of Barenziah quest requires you gather 25 gems, without any idea where they are. This mod adds quest markers to them. Cheating? Maybe. Useful? Definitely.

Open Cities Skyrim

■ Open Cities is a mod that brings the feel of *Skyrim* back to that of its precursor *Morrowind* – not by changing a huge amount, but by tearing down walls. It's shocking how much more immersive the world becomes when you can walk in and out of cities without having to travel through a door, and it makes exploration all the more fun.

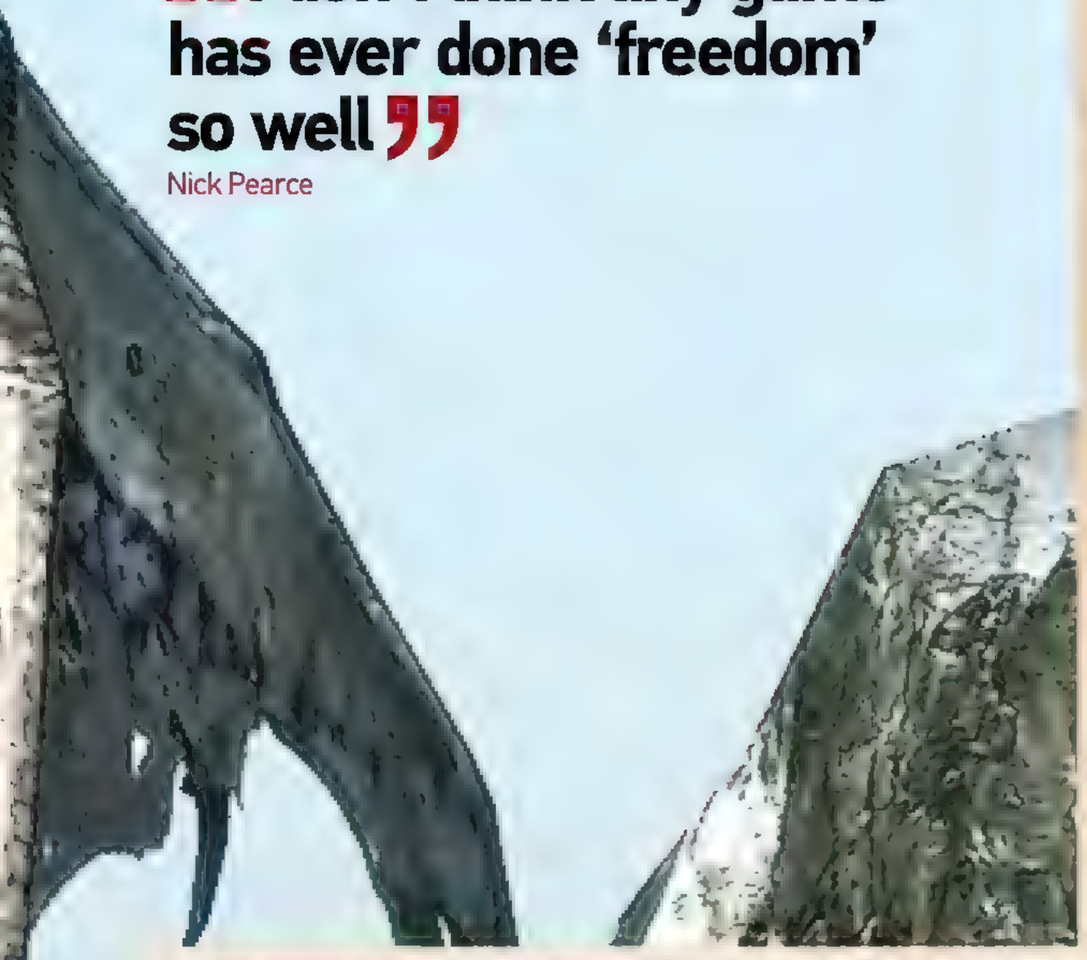


hunting stags, a babbling brook. It was easy to get lost in Skyrim, even when you knew exactly where you were.

It was also – sometimes – easy to get lost in Skyrim through no fault in your own, or to glitch through the world, or lose a saved game. It's not something that would usually be brought up in a piece like this, but it's fair to say *Skyrim* – just like previous Bethesda titles – had more than its fair share of bugs. But the playful, open nature of the game lent itself to a happier reaction than might have been expected – giants whacking the player hundreds of metres in the air was accepted as funny; flying horses were encouraged as brilliant; and setting a pot on a shopkeeper's head so you could rob them without them seeing a thing was a stroke of genius Bethesda never did bother to fix. It's fair to say that a lot of *Skyrim*'s quirky bugs actually made it an even more memorable experience.

Released in 2011 on PC and consoles of the day, *Skyrim* never did really go away and

"I don't think any game has ever done 'freedom' so well"
Nick Pearce

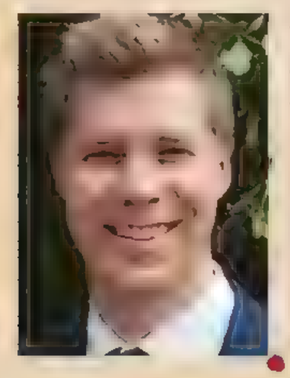


has seen re-releases and ports across many platforms in the years following its original launch. It's testament to the quality of the game, to the depth of experience on offer, and to the sheer replayability of *Skyrim* that every single time it comes out on another format, you'll find an army of players complaining – because they 'have to play through it all again'. Quick clue: that's not a complaint. Nobody actually dislikes playing through *Skyrim*.

For all the volume of its detractors, for all the jokes about remake after remake being released on every format imaginable – plateauing with Bethesda itself cracking a gag about *Skyrim* on Amazon's Alexa, only to then actually release it on that very format – and for all its genuine, pernickety issues, *Skyrim* is a genuine classic. Its scope, breadth, depth, imagination, and immersion has yet to be beaten and, frankly, there are few other places we'd want to spend as much time. Oh, and you can actually ride the dragons, too – what more could you want?

Meet The Modder

Nick Pearce – creator of the Forgotten City



What do you think is the appeal of *Skyrim*?
The key thing is freedom; freedom to explore, to role-play, and to mod the game into something else entirely. I don't think any game has ever done 'freedom' so well.

And what do you think it is about *Skyrim* that's made it a legend?
I think because of the immense freedom that the game offers, it can be all things to all people, or near enough. Want to be a hero fighting zombies and dragons? No problem. Want to be a villain skulking about in the shadows? Cool. Want to pick flowers and brew potions and sell them so you can by a house and marry a spouse? You're catered for. Want to write a narrative adventure game of your own? The Creation Kit's got you covered.

How has *Skyrim* impacted you on a personal level?
It has changed my life, no doubt. When I started modding *Skyrim* I was working as a legal and strategy advisor to a tech company. It was a good job, but it left me with a lot of unused creative energy, which I started pouring into my passion project in my spare time. After the mod took off and started winning awards, it opened up some really exciting new opportunities I hadn't expected; I was lucky enough to receive some mentoring from some awesome local developers (League of Geeks), and I landed a grant from the wonderful Film Victoria to set up a studio and develop a new game of my own. So I've taken a break from my legal career to pursue those opportunities. It has been fantastic so far.

What's your favourite area of vanilla *Skyrim*? Why?
I like Falkreath the best, because it's beautiful; nestled into a picturesque valley among lush trees. I'd be happy to live some place like that IRL, as long as it had fibre internet.

On a broader level, how much impact did modding have to the success of *Skyrim*?
It's common to see people in forums say that *Skyrim* was broken or incomplete and modders fixed it. I strongly disagree with that. *Skyrim* was awesome on its own; just ask the tens of millions of console players who enjoyed it without mods for many years. Mods certainly increased the freedom and provided an extraordinary stream of new content – and I think this is why *Skyrim* has enjoyed such longevity.

What would you say is your favourite thing about *Skyrim*?
The freedom to role-play your character. Personally, one of my favourite things to do in *Skyrim* is to play permadeath. Using a mod 'Live Another Life', I like to start with nothing at a random location, and see how long I can survive on Very Hard difficulty. Knowing that death is permanent for that character makes it really intense and gets the adrenaline going. I recommend it if you haven't tried it!

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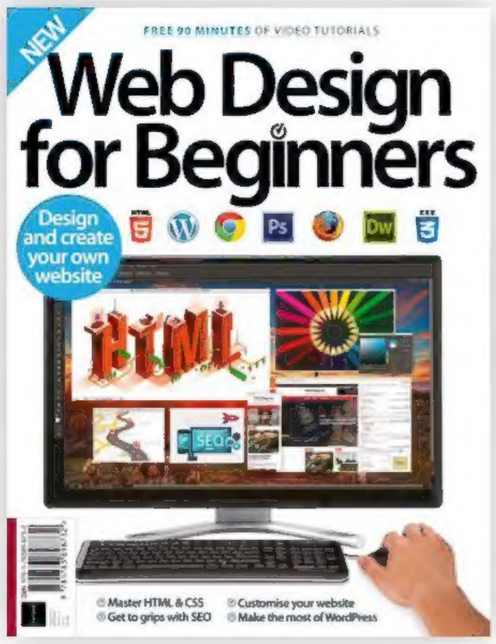

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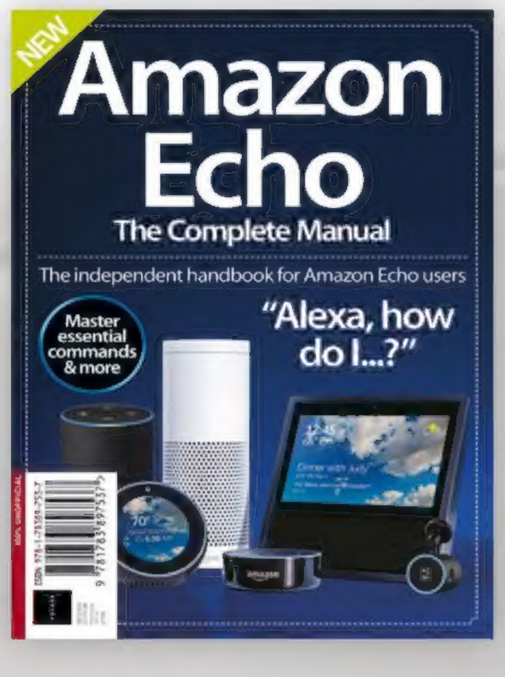

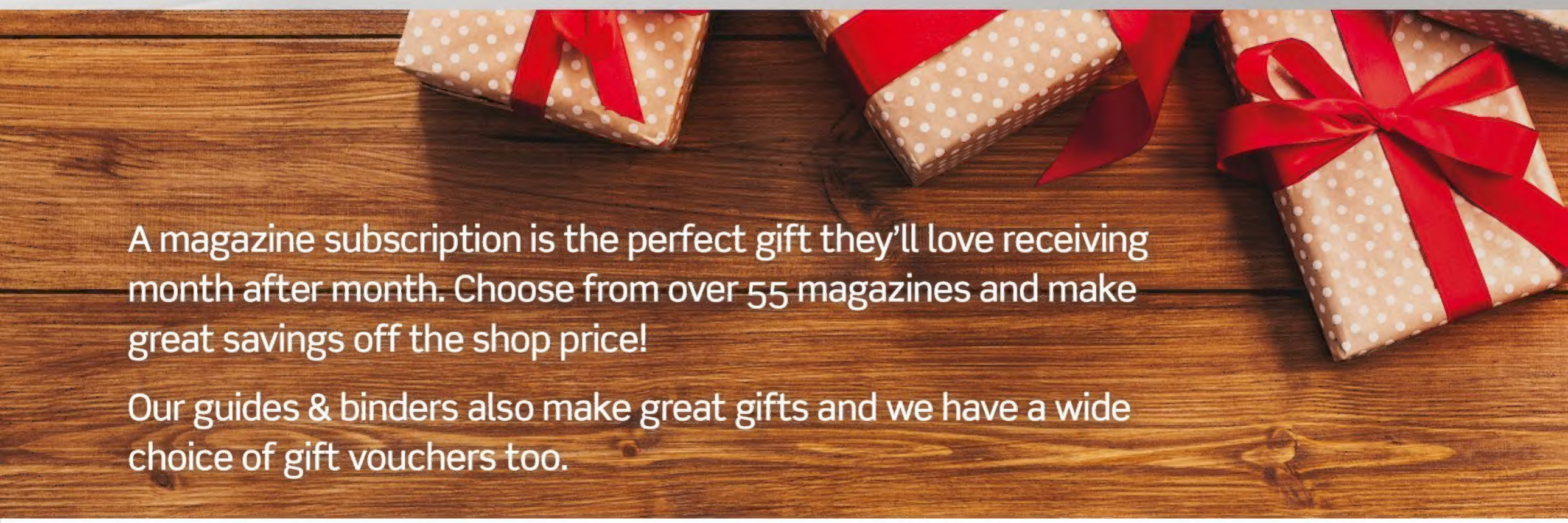

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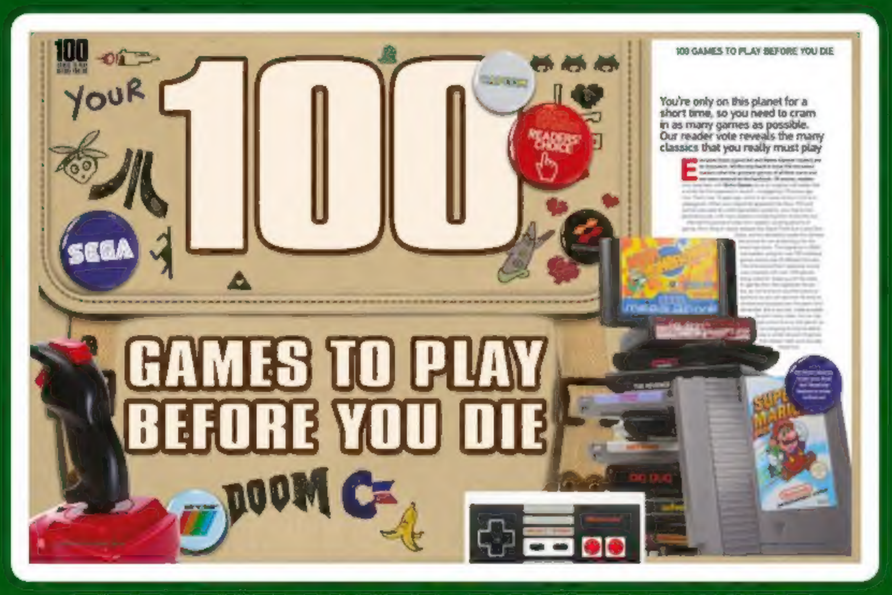

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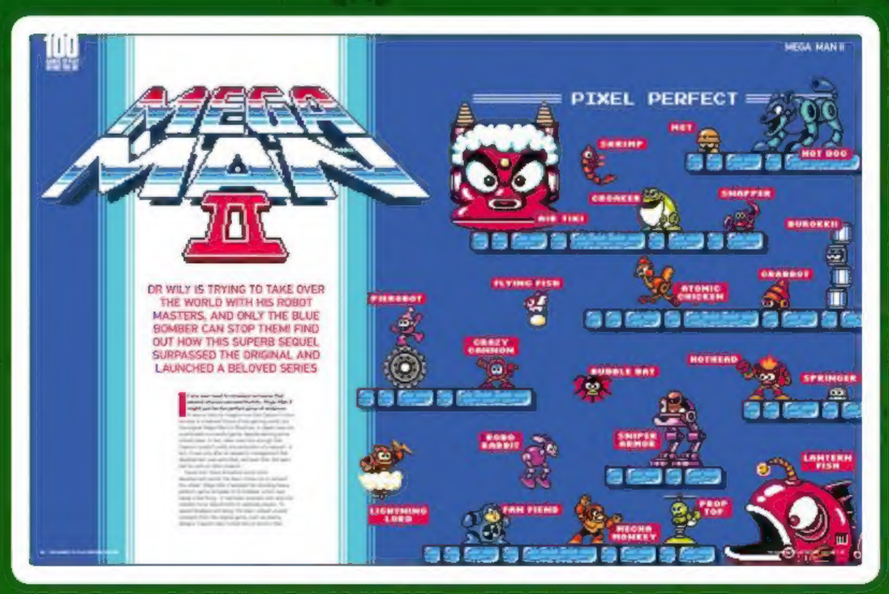

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